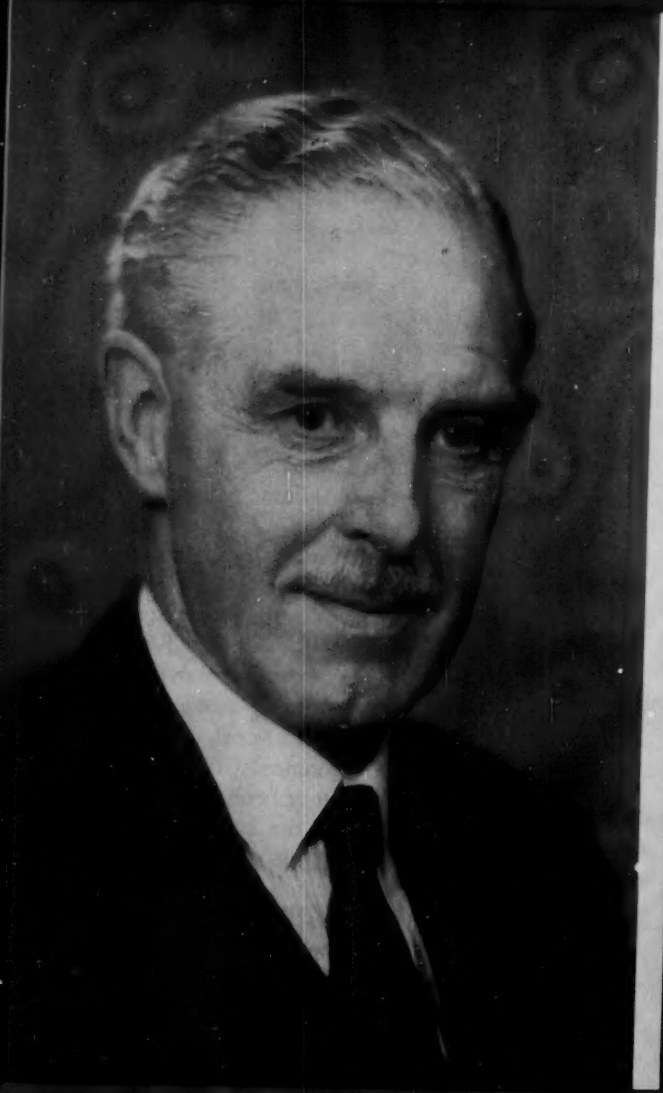
*The Magazine of*

# STANDARDS



New International Presidents:
Dr Percy Dunsheath, IEC (left), page 267
Sir Roger Duncalfe, ISO (right), page 265

*September 1955*

The Magazine of
# STANDARDS
Formerly Standardization

SEPTEMBER 1955 Volume 26, No. 9

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## In This Issue



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## MARGINAL NOTES

**International Items of Interest—**

As indicated by Admiral Hussey and Mr Sogge in their articles (pages 263 and 267), the recent meetings of the International Organization for Standardization and the International Electrotechnical Commission were outstanding affairs both from the viewpoint of technical accomplishments and as a means of promoting good fellowship and understanding among technical men of the various countries.

A news bulletin published daily during the meetings at Stockholm reported that the number of miles the delegates traveled to attend the meetings was equal to 50 times around the world. The colorful flags of the 37 countries represented flew outside the Riksdagshuset, the Parliament building, Conference headquarters.

The symbol of the Conference was built around the Stockholm Town Hall, which formed the "I" in the symbol's "ISO". The Hall, it was pointed out, is as much a symbol of Sweden as is the Tower of London of England, or the Statue of Liberty of the USA.

The midsummer sun set at 9:00 p.m. and rose at 2:30 a.m., with twilight replacing darkness for the intervening hours. This may have been standard for the Scandinavian delegates but was nonstandard and disturbed the sleep of most of the others. A French representative, waking at 4:00 with the sun shining in his window, was horrified at having slept so long and disturbed at having missed a morning appointment. He was reassured when he found the sun was rising and it was 4 in the morning, not in the afternoon. He facetiously suggested to the Conference Officers that an interplanetary commsision should standardize the hours of daylight.

As a result of the Conference, standardization was given wide publicity in Sweden. The *Vecho-Journalen* (Sweden's nearest to a combination of *Time* and *Life*) carried a picture story about ISO President Hilding Tornebohm and standardization, entitled in translation

"Peace Around the Screw"; *Industria* (Sweden's *Fortune*) published an article on "The Triumph of Simplification"; the weekly magazine *IDUN* carried an article on standardization written by the outstanding Swedish intellectual Dr Per Meurling; and the afternoon newspaper had a story about the ISO's General Secretary. The reception at the Tekniska Museet was televised by the Canadian television company.

At the London meetings of the International Electrotechnical Commission, the first Le Maistre Memorial Lecture was presented honoring Charles le Maistre. Mr le Maistre had been IEC's General Secretary from its inception until his death in 1953. The lecture was presented at the Royal Institution in London. Those present were impressed to learn that it was given in the same room and at the same lecture table used by Michael Faraday when he delivered his lectures and demonstrated the experiments which contributed in so fundamental a way to modern electrical science and industry. It was intriguing to see Faraday's experimental equipment and to realize that in a bit more than 100 years the electrical industry, based on his experiments, had reached the stage of routine international standardization.

**Our Front Cover**

Sir Roger Duncalfe (right) will take office as president of the International Organization for Standardization January 1, 1956. Dr Percy Dunsheath (left) took office as president of the International Electrotechnical Commission upon his election at the London meeting. He succeeds Dr H. S. Osborne (USA). Both new presidents are from the United Kingdom. For articles see pages 265 and 267.

The Fourth Annual Meeting of the Standards Engineers Society will be held at Hartford, Connecticut, September 29, 30, and October 1. For program and registration blanks write to Arnold B. White, Program Chairman, c/o Veeder-Root, Inc, Hartford, Conn.

# This Month's Standards Personality

**GRANVILLE M. READ**

A standards program which has netted I. E. du Pont de Nemours & Co. four dollars for every dollar invested in it is no miracle. Men like Granville M. Read, the company's chief engineer, have made this possible.

One of the enthusiasts in the standards movement in this country, Mr Read has been in direct charge of Du Pont's design, construction, and engineering activities since 1946. Today, under Du Pont's contract with the Atomic Energy Commission, he is also responsible for the engineering and construction of the $1.3 billion Savannah River Project which is approaching completion near Aiken, S. C.

Named manager of the War Construction Division of Du Pont in 1941, Mr Read was in charge of the erection of 54 ordnance facilities built for the government at 32 locations.

He was made assistant chief engineer in 1943 and in that capacity had supervision of the design, as well as the construction, phase of major war plants, including the Hanford Engineer Works for the production of plutonium. In September, 1946, he was named Chief Engineer.

Mr Read was born in New London, Va., March 18, 1894. After studying at Virginia Polytechnic Institute and the Sorbonne, Paris, France, he started with Du Pont in 1915 as a centrifuge operator at the Hopewell, Va., guncotton plant which the company was operating for the government.

Mr Read is a director of the Remington Arms Company, Inc; a member of the American Institute of Chemical Engineers; the American Society of Mechanical Engineers; the honor engineering society of Tau Beta Pi; and the national leadership society, Omicron Delta Kappa.

In 1951, Mr Read received the honorary degree of doctor of science from the University of Delaware and in 1954 was named a trustee of that university. Also in 1954, he was appointed by Governor Stanley of Virginia to serve as a member of the Board of Visitors of Virginia Polytechnic Institute.

In 1955 he was awarded the ASME Medal "for his outstanding leadership in developing men and in organizing and completing projects of extraordinary national and industrial importance."

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**Government Standards—**

Having in mind the interest of Canadian Governmental, technical, and industrial groups in standards and specifications in this country, and the interest of similar groups in the USA in furthering the interchange of information between the two countries, a series of articles is being planned on Canadian Government standards. A preliminary survey now under way has indicated the interest of Government officials in Canada in the series. The articles will be prepared by S. P. Kaidanovsky as part of his series on Government Standards.

**Many of America's** *roads and highways are showing some important changes indicated in the new revision of the American Standard Manual on Uniform Traffic Control Devices.*

Courtesy: City of New York Dept of Traffic

A. Devaney, Inc, N.


# For better TRAFFIC CONTROL DEVICES

*by* E. H. HOLMES

*Deputy Commissioner, U. S. Bureau of Public Roads*

*Chairman National Joint Committee on Uniform Traffic Control Devices*


*Copies of the American Standard Manual on Uniform Traffic Control Devices for Streets and Highways, D6.1-1948, including the 1955 revisions, can be obtained from the American Standards Association at $1.00.*

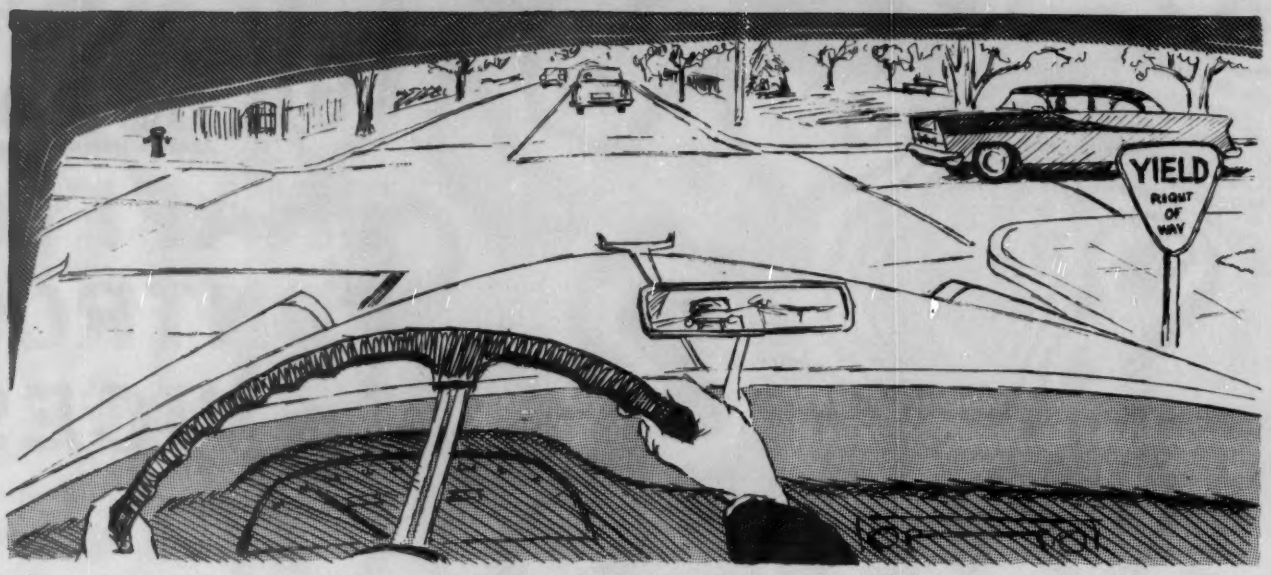
IN the wide field of standardization there is perhaps no one project that has more popular appeal than the standardizing of traffic-control devices. Everyone who has been confused by an unfamiliar sign or signal (and who has not?) is convinced that traffic would move faster, more comfortably, and more safely if all such devices were uniform in design and application. Even the inventors and promotors of new gadgets for highway safety are always careful to make it clear that their schemes are to replace all competition, not to create further diversity. Industrial standardization may save millions of dollars and improve quality, to our ultimate advantage, but uniformity in traffic control affects each one of us immediately, directly, and obviously.

It is not surprising that one of the best known American Standards is the Manual on Uniform Traffic Control Devices, D6, and that this small volume is one of the perennial best-sellers of the Government Printing Office. For 20 years the Manual has set the pattern for traffic-control devices throughout the United States and to an increasing extent in neighboring countries. Its recent revision, the first in six years, has attracted wide interest.

The Manual is the product of a National Joint Committee on Uniform Traffic Control Devices representing the American Association of State Highway Officials, the Institute of Traffic Engineers, and the National Committee on Uniform Traffic Laws and Ordinances. The recommendations of the committee are subject in all cases to the formal approval of its parent organizations. For further validation the Manual has been approved by the American Standards Association as an American Standard.

The 1954 Revisions to the Manual include, among lesser changes, two items of more than ordinary interest. The first of these is perhaps the most radical and the most conspicuous in the history of the Manual. The STOP sign henceforth is to be red, with white lettering. The old yellow signs will continue in use until the end of their normal service life, but the red signs are already blossoming almost everywhere as replacements. Since uniformity of opinion is rare on any subject, some highway departments will of course be slower than others to accept the new standard.

The reasons behind the color change are various. Many traffic engineers have felt strongly that red is the only appropriate color for a STOP sign. Red conventionally signifies danger. Red in a traffic signal means "stop." It is said that the STOP sign would in all probability have been red from the beginning, had there been available




KGM

**A new sign** *which will provide protection for through traffic without the annoying full stops which so many tend to ignore when no other traffic is present.*


any red pigments that would not fade badly on exposure to the weather. Now that durable red finishes can be obtained, the red sign has become practical.

Apart from its accepted symbolism, red is also a strikingly visible color. Tests have demonstrated on the part of motorists a better observance of the red sign where it has replaced yellow—an improvement that cannot be attributed wholly to novelty.

The second major revision of the Manual is the addition of an entirely new sign. This is the YIELD RIGHT OF WAY sign, having much the same purpose and application as the STOP sign, but not requiring a full stop unless there is an actual conflict of traffic. It introduces a new shape among American signs, an equilateral triangle with one point downward. It is yellow, like a warning sign, with the legend in black.

For some years among traffic engineers there has been a growing desire for a traffic-control device that would give a preferential right-of-way to traffic on a major highway, as does a STOP sign, without the wasteful and annoying stopping of every vehicle entering or crossing the superior highway. In many localities a less restrictive sign, carrying the message "Yield Right of Way," was in experimental use, with satisfying results. Most of these signs were of a keystone shape, and this would almost certainly have become the accepted design but for the influence of a proposed international standard.

When the National Joint Committee on Uniform Traffic Control Devices met in 1953 to review the Manual, it had before it the "Protocol on a Uniform System of Road Signs and Signals," drafted by a United Nations committee of experts for world-wide use. It was not deemed practical for the United States formally to commit itself (and its many State and local highway authorities) to an inflexible and partly alien scheme, but in the United Nations' symbolic "Priority Road Ahead" sign there was a design almost made to order for our needs. Not only did it have an internationally recognized meaning, but it provided the distinctively special shape that was desired. While it had no "inscription," and depended solely on the symbolism of its shape and color, the addition of the words "Yield Right of Way" for our purposes was simple. (Parenthetically, it should be pointed out that in most States it will be necessary to enact new legislation to define the obligations of the motorist where a YIELD RIGHT OF WAY sign is displayed.))

A lesser change in the Manual on Uniform Traffic Control Devices will simplify the signs at the beginning and end of no-passing zones to read "Do Not Pass," and "Pass With Care," respectively, in place of the former "No Passing" and "End No-Passing Zone." The new messages are believed to be more legible, even though on a slightly smaller plate.

Other revisions generally cover engineering details that are of less direct interest to the traveler, though they will help to make his driving safer and more convenient. Among these are an increase in the mounting height of rural signs, a greater advance placement distance for warning signs, the installation of at least two traffic-signal faces for each approach to an intersection, and a stiffening of the warrants, in terms of traffic volume, justifying the installation of traffic signals.

The new revisions have been published by the U. S. Government Printing Office in the form of a supplement for insertion in the 1948 edition of the Manual.

**ISO General Assembly** *Banquet, Town Hall, Stockholm, June 17*

# ISO-STOCKHOLM-1955

*by* VICE ADMIRAL G. F. HUSSEY, JR

*Managing Director, American Standards Association; delegate of ASA on Council and General Assembly, International Organization for Standardization.*

TO the Swedish Standards Institution goes an enormous amount of credit for the very successful meetings which were organized for ISO-Stockholm-1955. With the facilities of the Houses of Parliament for all of the meetings, the mechanics of the program were handled exceedingly well by the SIS staff, together with the members of the ISO staff who accompanied the General Secretary, Henry St Leger, from Geneva.

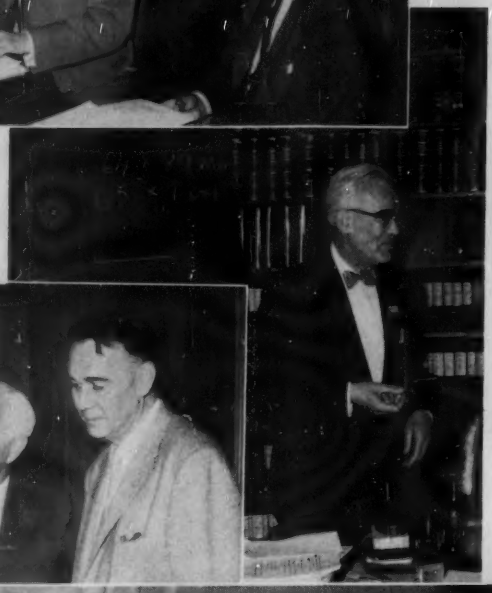
Fourteen technical committees held meetings, the results of which will be covered in separate articles prepared for THE MAGAZINE OF STANDARDS by the leaders of the United States delegations.[1] It should be noted in passing that the adoption of Draft ISO Recommendations by these committees reached an all-time high in ISO activity.

The Council, which had a full representation from its entire membership,[2] was as usual concerned with the administrative aspects of ISO affairs. The report of the Committee on Directives provided particularly for conveying to the members in each country the results of ISO technical committee meetings. The report of the Planning Committee indicated no need for radical changes in the ISO structure, but rather for a closer re-examination of scopes and liaison among technical committees. Both reports were adopted. Further, the Council gave final approval to two Draft ISO Recommendations which had received the required majority vote of the Member Bodies—one on ball bearings and one on musical pitch.

Dr Carlo Rossi, Director of the Italian standards body, was elected Vice-President for a term of three years ending December 31, 1957. The Council decided to expand the Editorial Committee by adding Ing. J. Wodzicki, President of the Polish standards body, as a representative

[1] For reports of Technical Committees 27 and 26, see pages 282 and 283.

[2] Council members for 1955 are the President of ISO and representatives of Member Bodies of Belgium, Brazil, Finland, France, Germany, India, Italy, Portugal, United Kingdom, USA, USSR.



**Top:** *A partial view of the meeting of Technical Committee 42, Photography, showing part of the Swedish, UK, German, Belgian, and French delegations. Dr D. R. White, du Pont, chairman of the meeting, is standing.*
**Center right:** *Axel Jensen, Bell Telephone Laboratories, chairman Technical Committee 36, Cinematography*

**Center left:** *A group of delegates to Technical Committee 12, Quantities, Units, Symbols, Conversion Factors, and Conversion Tables. From left—Professor T. Bjerge, Denmark, Secretary, TC 12; Professor A. Perard, chief delegate, France; Professor E. A. Guggenheim, UK; J. W. McNair, USA*
**Bottom:** *Donald Holmes, Library of Congress, and Wm Kelley, Motion Picture Research Council, Hollywood, delegates to Technical Committees 36 and 42*

of the Russian language, and to make membership on the committee continuous at the pleasure of the Council.

Other members of the Committee are General P. Salmon, France; H. A. R. Binney, United Kingdom; and H. E. Glahn, Denmark.

The General Secretary and the Editorial Committee were requested to prepare a style manual as a guide for ISO technical committees in developing Draft ISO Recommendations.

For the third member of the Supervisory Committee, which assists the president in supervising the work of the General Secretary, Admiral Hussey was elected for the calendar year 1956.

The General Assembly, meeting for the third time, recorded the first instance of representation from each of the Member Bodies. The General Assembly was addressed by the president of the Swedish Standards Institution, Mr Carl Kleman, and by Dr Sune Carlson, Personal Representative of the General Secretary of the United Nations. There were also remarks by Dr Harold S. Osborne, president of the International Electrotechnical Commission, Monsieur Albert Caquot, past president of the ISO, and Dr Hilding Törnebohm, president of the ISO. Written reports were handed in on many of the technical committees, and it was possible to inform the General Assembly directly of the results achieved by those technical committees which had met in the course of the Stockholm meetings.

A shortage of time in the schedule, however, prevented the presentation of oral reports covering all of the technical committees. As a result, the General Assembly instructed the Council to so plan the General Assembly for 1958 as to provide for technical committee reports and ample time for their discussion.

Finally, the General Assembly elected as members of the Council for a term of three years, commencing January 1, 1956, the Member Bodies from the USSR and Belgium (both re-elected) and from Spain. Then the General Assembly elected Sir Roger Duncalfe, president of the British Standards Institution, as president of the ISO for a three-year term commencing January 1, 1956, succeeding Dr Hilding Törnebohm of Sweden.

On the lighter side, the ladies and those delegates who happened to be free saw a great deal of the most interesting features of Stockholm and of the surrounding territory. For this the members of the Ladies Committee, headed by Mrs Carl Kleman, wife of the president of SIS, earned warm praise from all of the visitors.

A reception for delegates and their families, held at the Technical

Museum, was attended by HRH Prince Bertil, a brother of the King of Sweden. The heads of delegations were presented to Prince Bertil who proved to be a charming individual and well posted on standardization. A supper dance for delegates and their families at the Restaurant Hasselbacken, one of the delightful park resorts in Stockholm, was most enjoyable.

On June 12, at the halfway point in the program, there was an excursion by two steamers in the Archipelago of Stockholm with a picnic lunch on a most attractive island followed by an exhibition of folk dancing which wound up with many of the guests taking part. Excellent control of the weather was manifest, for the rain, which followed the steamers from Stockholm to the island, stopped as we stepped ashore and left the rest of the day completely clear. A feature of the luncheon was Swedish Standard Refreshment served in SIS standard bottles. It was very quickly apparent that the SSR was an excellent variety of Swedish schnappes.

President Törnebohm was host at dinner for the ISO Council at a 17th century inn, the Stallmästaregården. The pleasure of the excellent food and delightful company in most attractive surroundings was enhanced by the remarkable performance of the interpreter who translated the speeches so as to retain their original flavor.

A boat trip to Drottningholm, once the principal summer residence of the Swedish royal family, provided a tour through the palace and then a special performance of an 18th century play at the Royal Theater, erected in the 1760's and remarkably preserved with costumes and scenery since that time.

The high point of the social program was the General Assembly banquet in the magnificent Town Hall of Stockholm, a truly glittering occasion and one that provided a fitting climax for a delightful stay at the hands of most hospitable people.

A few of the delegates took advantage of the opportunity to make a flight to the Arctic Circle, leaving Stockholm about ten o'clock in the evening and returning at around five the following morning, the entire flight being in broad daylight. The flight gave an opportunity to see the variety of the Swedish landscape and to acquire some idea of the enormous natural resources which the country possesses.

The Swedish Standards Institution set an exceptionally high mark for ISO meetings and one that will be hard to equal let alone try to surpass.


# Duncalfe and Rossi Head ISO

SIR Roger Duncalfe (United Kingdom) will be the new president of the International Organization for Standardization for a three-year term, taking office January 1, 1956. Sir Roger was elected at the ISO General Assembly meeting in Stockholm, Sweden, June 17 and 18. The ISO Council had previously chosen Dr Carlo Rossi (Italy) vice-president.

Like his two predecessors, Howard Coonley (USA) and Dr Hilding Törnebohm (Sweden), Sir Roger is a leader of industry in his own country. At the present time he is president of the British Standards Institution; vice-president of the Federation of British Industries; president of the Federation of Gelatine and Glue Manufacturers; Vice-President of the Association of British Chemical Manufacturers; and member of the General Board of the National Physical Laboratory.

Knighted for his outstanding services to standardization in the United Kingdom, Sir Roger has a long record of active work with BSI. He was first brought into close contact with the Institution when in 1934 he became chairman of the Technical Committee dealing with glues. He was elected chairman of the Chemical Divisional Council in 1941 and afterwards successively held office as chairman of the Finance Committee (1946-48), chairman of the General Council (1948-52), vice-president of the Institution (1952-53), and now president.

He was knighted in 1951 after having served as a member of the Government Committee set up to inquire into the organization, con-

*Sir Roger Duncalfe*

stitution, and finances of the BSI.

Sir Roger's active industrial life covers the whole period of the Twentieth Century.

On January 1, 1901, at the age of 16, he entered a Nottinghamshire glue and fertilizer manufacturing business. For many years now he has been the acknowledged leader of this specialized branch of the chemical industry in Great Britain and has achieved an international reputation for his service to the industry.

In 1930 Sir Roger played a major part in the promotion of British Glues & Chemical Ltd, a merger operation which brought together under single direction and control a large number of small old-established and uncoordinated units. He became joint Managing Director of the new company at its formation, and from 1946 until the present time has been its chairman.

From the first world war on, Sir Roger was actively concerned in the establishment of trade associations for the bone-using industry, and when, in 1942, the industry was concentrated by Government order as "Fabon, Ltd" he was appointed its chairman. British Glues & Chemicals, Ltd are today the largest unit in their field in Europe.

Sir Roger has been a member or chairman of a number of special Government committees, including the Livestock Advisory Committee to the Ministry of Agriculture (1937-39). More recently, 1953-54, he served as Deputy Chairman of a committee set up by the Government to report on air pollution.

In addition to serving as vice-president of the Federation of British Industries, Sir Roger is now chairman of its technical legislation committee.

During his service as an officer of the British Standards Institution, Sir Roger has come closely into contact with activities of the International Organization for Standardization in the United Kingdom. In June he made the principal speech at a dinner to ISO Technical Committee 28 on Petroleum Products, when J. Orsal, Delegué Général, Union des Chambres Syndicates de l'Industrie du Petrol, was the guest of honor.

On his election to the Presidency of ISO, Sir Roger said: "ISO's work can help in expanding—immeasurably—the smooth interchange of trade throughout the world, assist powerfully in creating better living conditions for millions of people, and exert a powerful influence in promoting friendship and understanding between the nations."

Dr Rossi, ISO's new vice-president, is a textile industrialist, and doctor in industrial engineering. Since 1941 he has been director of the Italian Standards Association, Ente Nazionale Italiano di Unificazione (UNI).

His interests cover a wide range. He is president of the Italian Quality Control Association; a member of the Executive Council of the International Technics Exhibition, Turin; member of the Executive Council of the Italian Committee of International Representation for the Organization of Labor; a founder member and member of the Board of the Center of Applied Research into Problems of Residential Building, Milan; as well as member of the Italian Productivity Committee and the committee's Executive Council. He is also member of the Transport Users Commission of the Italian Section of the International Chamber of Commerce.

Dr Rossi is well known for his writings. About 40 of his scientific and technical works have been published, some original and some translations. He is founder and editor of the *Revista d'Ingegneria* (Engineering Review), and founder of the review *Produttivita* (Productivity) of the Italian Productivity Committee. He is also founder and editor of the review *La Stampa Periodica Italiana* (the Italian Periodical Press).

In line with this activity in the publishing field, Dr Rossi is president of the Italian Technical, Scientific, and Periodical Press Association, and vice-president of the International Periodical Press Federation (FIPP), Paris.

He is also editor of the periodical *L'Unificazione* (Standardization), published by his own organization, the Italian Standards Association.

Dr Rossi's interest in the building field, in addition to textiles and publishing, is indicated in the fact that he is a member of the Joint Commission of the Italian Productivity Committee — Ministry of Public Works and United States Operations Mission for development of greater productivity in building.

Dr Rossi has represented the Italian Member-Body on the Council of the International Organization for Standardization for two three-year periods, from 1952 through 1954 and again from 1955 through 1957.

Dr Rossi's contributions to Italian industry were recognized when he was elected Honorary Member of the Italian Center of Studies connected with Business Organization, Milan.

*Dr Carlo Rossi*

# International Electrical Standardization *advanced at* IEC London Meeting

*by* R. C. SOGGE

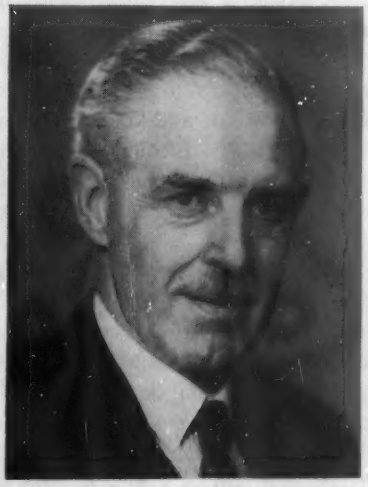
*President, United States National Committee, International Electrotechnical Commission; Chief USNC delegate at London meeting*

ALMOST successful meeting of the International Electrotechnical Commission was held in London from June 28 to July 9. More than 500 overseas delegates attended in addition to more than 110 delegates from the United Kingdom. Twenty-five of the 30 member countries were represented. The United States National Committee was represented by 30 delegates, headed by R. C. Sogge, General Electric Company, President; Virgil Graham, Radio-Electronics-Television Manufacturers Association, Vice-President; Vice Admiral G. F. Hussey, Jr, American Standards Association, Treasurer; and J. W. McNair, American Standards Association, Secretary. The 29 USA delegates were accompanied by 16 ladies.

A busy program of technical meetings was made more interesting by the inclusion of important social events among them being receptions by Her Majesty's Government at Lancaster House; by the Institution of Electrical Engineers at the their headquarters; by the Senate of London University at the University; and a farewell reception at the Canning Club. An all-day excursion to Cambridge on Sunday gave the delegates an opportunity to lunch in one of the colleges and to see many of the ancient and beautiful buildings. The banquet, which was held at the Guildhall, was a memorable affair and will be long remembered by all who attended. Sir Roger Duncalfe, president of the British Standards Institution and president-elect of the ISO, served as chairman. Speeches were made by the Right Honorable Lord Waverley; the Right Honorable Lord Mayor of London, Sir Seymour Howard; the Right Honorable Peter Thorneycroft, President of the Board of Trade, and Dr H. S. Osborne, President of the IEC.

Nineteen technical trips were arranged—to the National Physical Laboratory, to the television studios, and to a large number of manufacturing plants in both heavy and light industries. In addition, thirteen social events were also arranged for the ladies. These included a number of teas and receptions as well as visits to points of scenic and historic interest.

Two meetings of the Committee of Action and one of the Council



*Dr Percy Dunsheath*

of the IEC were held. Dr Percy Dunsheath, retired Director of Research of Henley Cables, and for many years treasurer of the IEC, was elected president and Dr Arnold Roth of Switzerland, was elected treasurer to succeed Dr Dunsheath.

Many administrative decisions affecting relations among the various technical committees and the general operation of the IEC were taken by the Committee of Action which is responsible for the operation of the IEC. Among these was authorization of the two new technical committees, one on protective relays and the other on high-voltage testing techniques. This latter will include work on high-voltage testing and measurements of high-voltage and impulse voltages and currents formerly handled by technical committee 36 on insulators and bushings and 28 on insulation coordination.

The invitation of the German National Committee to hold the next annual meeting of the IEC in Munich June 27 through July 6, 1956, was accepted and preliminary invitation of the Spanish Committee to hold the 1957 general meeting in Madrid was tentatively accepted.

A summary of the technical accomplishments is given below.

The difference in safety requirements for electrical equipment in different countries which are mandatory is recognized as an obstacle to international trade, it was reported. To help bring about greater uniformity in safety codes and regulations, a Working Group was organized with H. A. R. Binney, director of the British Standards Institution, as chairman; and Mr Sogge as U.S. representative. This group will act in line with the view expressed by the Committee of Action that the "preparation of appropriate IEC Recommendations covering the fundamental aspects of safety and like matters is a matter of urgency." Technical Committees will be asked to incorporate safety provisions in their recommendations.

The Swedish National Committee accepted the secretariat of the new technical committee on High-Voltage Testing Techniques (No. 42). M. H. Puppikofer, Switzerland, is to be chairman.

Because of the increasing work in electronics and telecommunications, an Electronics and Telecommunications Advisory Committee was set up to advise the Committee of Action on work in these fields. Its responsibility will be to help coordinate the work of IEC technical committees on telecommunications and electronics, and to serve as liaison with other international bodies in these fields as well as with technical committees other than those strictly concerned with electronics and telecommunications. The committee will be made up of the chairmen of the interested IEC technical committees. Dr Dunsheath, president of IEC, will be chairman.

A proposal on standardization of ferro-magnetically soft materials, presented by the Netherlands, has been circulated to the National Committees.

Technical Committee No. 2, Rotating Machinery, has set up a new subcommittee to investigate the question of impulse voltage testing of rotating machinery. The United Kingdom holds the secretariat.

The first list of graphical symbols completed by Technical Committee No. 3 has been approved and will be published as an IEC recommendation. Draft lists of symbols for resistors, impedances, inductors, windings, and capacitors, and for machines and transformers will soon be circulated to the National Committees for approval under the Six Months' Rule. A document on classification and definition of circuit diagrams also will be circulated.

A number of draft specifications prepared by Technical Committee No. 7 on aluminum are to be circulated for approval under the Six Months' Rule. These include a specification for commercial hard-drawn aluminum electrical conductor wire; a specification for aluminum alloy electrical conductor wire of the Al si Mg type; and a specification for commercial aluminum busbars.

The urgency of standardizing measurements of intermodulation distortion (acoustical) and acoustic measurements of receivers will be called to the attention of technical committees as the result of this meeting. Revised recommendations for measurements on television receivers will be circulated to the National Committees for approval under the Six Months' Rule. The revision was prepared by Technical Committee 12, Radio-Communication.

Three draft specifications on terminal markings—for power transformers, for instrument transformers, and for identification of conductors—have been completed by Technical Committee 16 and will be circulated to the National Committees for approval.

Drafts on unit testing of circuit breakers and on rules for operating conditions have also been completed by Technical Committee 17 on Switchgear and Control gear and will be circulated soon for approval by the National Committees.

A new IEC Recommendation on plugs and socket outlets for domestic use as well as for general use has been approved and will be published soon. In addition, Technical Committee 23, Electrical Accessories, now has in preparation a draft specification for Edison screw lampholders.

Revisions and new definitions are being considered for IEC Publication 71 on coordination of insulation. These, and a number of other points, will soon be voted on as a supplement to this publication. The points under consideration include addition of a new column of values for power-frequency test voltages up to 72.5 kv; change of the rule for contamination and humidity of external insulators; test voltages for 420 kv; and addition of minimum clearance distances in air.

Technical Committee 33, Capacitors for Power Systems, has drafted specifications for shunt capacitors for use under tropical conditions. This is now ready for circulation to the National Committees under the Six Months' Rule.

Recommendations for glass insulators for overhead lines for 1,000 volts and above have been approved by the National Committees and are being published as an IEC Recommendation.

A draft specification for insulated bushings has also been completed by Technical Committee No. 36, High-Voltage Tests-Insulators, and is to be circulated to the National Committees.

A number of documents on electronic tubes and valves are to be circulated to the National Committees following completion by Technical Committee 39. They are on dimensions for sub-miniature outline gages; a new type of base; and a new outline used with small button noval 9-pin base.

Technical Committee 40 on Electronic Components has been unusually active during the past year. As a result of its work, two IEC Recommendations have been completed and are being published. One is a specification for fixed paper capacitors for direct current, including a color code; and the other is recommendations for rated characteristic impedances and diameters of Radio Frequency Cables. Three other documents have been completed and are to be circulated under the Six Months' Rule. These are a specification for receiver type metallized mica capacitors, including a color code; a specification for fixed carbon composition resistors; and general requirements and measuring methods for radio frequency cables. A new subcommittee to deal with general testing methods was set up with the United Kingdom holding the secretariat.

The first Charles le Maistre Memorial Lecture was given at the Royal Institution, London, on the occasion of the 1955 meeting of the International Electrotechnical Commission. André Lange, Vice-President of the Comité Electrotechnique Français and Vice-President of the Union Technique de l'Electricité, presented the lecture. Mr Lange was a close friend of Mr le Maistre for many years. His subject was "Charles le Maistre: His Work, the IEC."

Proposing a toast to the International Electrotechnical Commission at the Guildhall Banquet, Peter

Thorneycroft, President of the Board of Trade, commented: "Today we face a combination of factors which is likely to bring about alterations in our standard of living at least as dramatic as any of the events which I have just mentioned (the wheel, metal-working, steam engine, combustion as a source of power, aeronautics). On the one hand we have the development of atomic power and on the other the development of a complex of processes which brings the automatic factory within the bounds of possibility. The combination of these two, of new power and new techniques, will bring about an industrial revolution in the second half of the Twentieth Century. It is clear that the years which lie ahead of us will bring untold and as yet, I believe, still unrealized opportunities. It must be a source of some satisfaction to your Commission that the work which you have carried through and are carrying through in the field of common standards and the removal of artificial barriers to trade has done so much to bring forward as it will undoubtedly sustain the favorable situation in which we find ourselves today. . . . You and I can count ourselves lucky that we have been given a chance to play our own part in these events."

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

*United States National Committee Delegates to*
*IEC Technical Committee Meetings in London—June 28 to July 9, 1955*

*Head of Delegation:* R. C. Sogge, President, USNC, General Electric Company, New York, N. Y.
*Secretary of Delegation:* J. W. McNair, Secretary, USNC, American Standards Association, New York, N. Y.

| *Technical Committee No.* | | |
|---|---|---|
| 2 | *Rotating Machinery* | J. H. Foote, Chief Delegate, Commonwealth Associates Inc, Jackson, Michigan<br>L. J. Linde, Allis-Chalmers Manufacturing Co, Milwaukee, Wis. |
| 2D | *Losses and Efficiency* | J. H. Foote, Chief Delegate<br>L. J. Linde |
| 3 | *Graphic Symbols* | G. S. Lunge, Chief Delegate, General Electric Company, Schenectady, New York |
| 7 | *Aluminum* | P. V. Faragher, Chief Delegate, Metallurgist, Pittsburgh, Pa. |
| 8 | *Standard Voltages, Current Ratings and Frequencies, Subcommittee 8-1, Nominal System Voltages* | J. H. Foote, Chief Delegate<br>L. J. Linde |
| 12 | *Radio-communication* | Axel Jensen, Chief Delegate, Bell Telephone Laboratories, Inc, Murray Hill, New Jersey |
| 12-1 | *Measurements* | Axel Jensen, Chief Delegate<br>E. I. Anderson, R.C.A. Laboratories, New York, N. Y. |
| 12-6 | *Radio Transmitters* | R. A. Hockbusch, RTMA of Canada, Toronto |
| 16 | *Terminal Markings and Other Identifications* | L. W. Morton, Chief Delegate, General Electric Company, Schenectady, New York |
| 17 | *Switchgear and Controlgear* | V. L. Cox, Chief Delegate, General Electric Company, Philadelphia, Pa.<br>J. H. Foote<br>W. N. Gittings, General Electric Company, Philadelphia, Pa.<br>G. W. Heumann, General Electric Company, Schenectady, New York<br>E. M. Hunter<br>L. J. Linde<br>T. G. A. Sillers, Allis-Chalmers, Wauwatosa, Wis. |
| 22 | *Power Converting Equipment* | L. W. Morton, Chief Delegate<br>E. A. Harty, General Electric Company, West Lynn, Mass. |
| 22-2 | *Ionic Converters* | E. A. Harty |
| 23 | *Electrical Accessories* | Frank Thornton, Jr, Pittsburgh, Pa. |
| 28 | *Coordination of Insulation* | J. H. Foote, Chief Delegate<br>V. L. Cox<br>E. M. Hunter<br>L. J. Linde |
| 33 | *Capacitors for Power Systems* | R. E. Marbury, Chief Delegate, Westinghouse Electric Corporation, East Pittsburgh, Pa. |
| 36-1 | *Insulated Bushings* | E. M. Hunter |
| 37 | *Lightning Arresters* | E. Beck, Chief Delegate, Westinghouse Electric Corporation, East Pittsburgh, Pa.<br>G. F. Lincks |
| 39 | *Electronic Tubes and Valves* | V. M. Graham, Chief Delegate, Radio-Electronics-Television Manufacturers Association, New York, N. Y.<br>S. Del Camp, Cinch Manufacturing Corporation, Chicago, Ill.<br>George O'Neill<br>A. C. Rockwood, Raytheon Manufacturing Co, Newton, Mass. |
| 40 | *Electronic Components* | Leon Podolsky, Chief Delegate, Sprague Electric Company, North Adams, Mass.<br>E. F. Seaman, Washington, D.C.<br>J. W. E. Griemsmann, Microwave Research Institute, Brooklyn, New York |
| 40-1 | *Capacitors and Resistors* | Leon Podolsky<br>E. F. Seaman |
| 40-2 | *High Frequency Cables and Connectors* | J. W. E. Griemsmann<br>Leon Podolsky |
| 40-3 | *Crystals* | R. A. Sykes, Transmission Apparatus Engineer, Whippany, New Jersey |
| 40-4 | *Electro-Mechanical Components* | S. Del Camp |
| *Council* | | R. C. Sogge, President, USNC<br>G. F. Hussey, Jr, Treasurer, USNC, American Standards Association, Inc, New York, N. Y.<br>J. W. McNair, Secretary, USNC |
| *Committee of Action* | | R. C. Sogge<br>G. F. Hussey, Jr<br>J. W. McNair |


**In the long, slow, critically important work of developing international standards, the performance of the electrical industry stands unsurpassed.**

The industry's record of formal, organized cooperation goes back some 50 years. The time was September, 1904. The place: St. Louis. The event: the International Electrical Congress, meeting in conjunction with the World's Fair celebrating the 100th anniversary of the Louisiana Purchase.

It was the biggest Exposition ever held and it was a tremendous success. In 1,142 acres in Forest Park were set down 15 large exposition buildings in the shape of a fan; 500 other buildings representing states, territories and foreign countries; 1,250 pieces of "decorative sculpture"; and a mile-long main concourse called "The Pike."

The new art of electricity played a prominent role among the Fair's wonders of science. The "Palace of Electricity" was one of the main buildings. The whole area was lighted with a brilliance hitherto unknown. A writer of that day declared: "Mingling emotions of joy and reverence filled the hearts of the thousands who witnessed the first official lighting of the exposition. In whispering silence the great throng watched the first faint glow of lights in the various buildings, and as the splendor grew, animated expressions gave way to deafening cheers as the full effect of the glorious spectacle was realized. Cheer after cheer from thousands of throats rent the air as the magnificence of the unsurpassed scene was appreciated by eager admirers."

On September 15 the Chamber of Delegates of the Congress met under the chairmanship of the U.S.'s remarkable Elihu Thomson (1853-1937), professor, inventor of the electric watt hour meter, and one of the founders of the General Electric Company. The next day the delegates voted: "That steps should be taken to secure the cooperation of the technical societies of the world by the appointment of a representative Commission to consider the question of the standardization of the nomenclature and ratings of electrical apparatus and machinery." Out of that resolution, two years later in London grew the International Electrotechnical Commission (IEC). The British physicist and mathematician William Thomson, the first Lord Kelvin, was chosen first president by the delegates of three participating nations. (On his death the following year he was succeeded by Elihu Thomson.)

The Commission produced its first international standards in 1914 — a list of terms and definitions covering electrical machinery and apparatus; a list of international letter symbols for quantities and signs for names of units; a standard of resistance for copper; a list of definitions in connection with hydraulic turbines; and a number of definitions and recommendations relating to rotating machines and transformers. It has been producing and revising them faithfully ever since.

The greatest meeting of the IEC was held in Philadelphia in September, 1954, in celebration of the organization's fiftieth anniversary. Some 800 technical experts came from 23 countries to this 14-day-long Golden Jubilee meeting held on the University of Pennsylvania campus. Dr Harold S. Osborne, president of the IEC, retired chief engineer of the American Telephone and Telegraph Company, presided.

IEC now has 42 technical committees which are developing standards covering the entire field of electric light, power and communications, including magnetic units, symbols and nomenclature. IEC has approved and published 33 international recommendations in these areas. These are recognized by all members as expressing as nearly as possible an international agreement, and the national standards committee of each country attempts as far as possible to harmonize its national electrical standards with the IEC Recommendations.

IEC affiliated with the International Organization for Standardization (ISO) in 1947 as its electrical (technical) division but continues to maintain its autonomy. The United States holds membership in IEC through the U.S. National Committee of the IEC. This Committee is an arm of the American Standards Association.

# *The 58th Annual Meeting of the* AMERICAN SOCIETY *for* TESTING MATERIALS

At its 58th Annual Meeting, Atlantic City, N. J., June 27-July 1, the American Society for Testing Materials held 32 technical sessions and approximately 700 technical committee meetings. Sixty-six of the Society's technical committees presented reports. Sixty-seven new specifications and methods of test were approved as tentative, and revisions in 351 existing tentatives and standards were acted upon. A total of 119 specifications and methods of test previously designated as tentative were approved for reference to Society letter ballot for adoption as standard; 195 standards were reapproved. Committees had worked vigorously to complete the work necessary to get new and revised standards into shape for action at this meeting so as to be included in the triennial *ASTM Book of Standards* for 1955.

Claire H. Fellows, Director, Engineering Laboratory and Research Department, Detroit Edison Company, Detroit, was elected president of the Society for a one-year term.

Mr Fellows has been a member of ASTM since 1931, has served as director for two separate terms, and has been vice-president since 1953. He is active in the work of technical committees D-9 on Electrical Insulating Materials, D-19 on Industrial Water, D-2 on Petroleum Products and Lubricants, and A-5 on Corrosion of Iron and Steel. He has been active in the work of the ASTM Detroit Council for many years, having served as chairman, and has been chairman of the Society's Administrative Committee on District Activities. He has served as chairman of the Joint Research Committee on Boiler Feedwater Studies and currently is the ASTM representative on its executive committee.

Mr Fellows is a member of the American Chemical Society, National Association of Corrosion Engineers, American Water Works Association, American Association for the Advancement of Science, and the Engineering Society of Detroit.

Richard T. Kropf, vice-president and director of research for the Belding Heminway Company, Inc, New York, was elected vice-president for a two-year term.

Directors of the Society elected for three-year terms were R. C. Alden, chairman, Research Planning Board, Phillips Petroleum Company, Bartlesville, Oklahoma; A. A. Bates, vice-president, Research and Development, Portland Cement Association, Chicago; F. L. LaQue, vice-president and manager, Development and Research Division, The International Nickel Company, Inc, New York; E. F. Lundeen, assistant superintendent, Quality Control Department, Inland Steel Company, Chicago; J. C. Moore, director, Technical Section, National Paint, Varnish and Lacquer Association, Inc, Washington, D.C.

Among those who received Awards of Merit were George N. Thompson ("This Month's Standards Personality," THE MAG OF STDS, July, 1955), and William A. Zinzow. Mr. Zinzow is Assistant Director of Development, Bakelite Company, Bound Brook, N.J. He was recognized particularly for his work in Committees D-9 on Electrical Insulating Materials, D-11 on Rubber and Rubber-like Materials, and D-20 on Plastics. He is also active in work of the American Standards Association as a member of the Materials and Testing Standards Board, and as a member of the American Advisory Group for ISO Technical Committee 61. In connection with this international work, he is leader of Working Group 4 on thermal properties of plastics.

*Claire H. Fellows*

Honorary Membership in ASTM was awarded Thomas Alvin Boyd, Research Consultant (retired), General Motors Corporation, Detroit. Mr Boyd's principal research has been automobile and aircraft fuels. He was co-discoverer with Charles F. Kettering and Thomas Midgley, Jr, of antiknock compounds.

He has been a member of ASTM since 1930 and was president in 1947-48. His intensive technical activities have been concentrated in

*Richard T. Kropf*

Committee D-2 on Petroleum Products and Lubricants, of which he was chairman from 1931-1946. Other of his technical committee activities included methods of testing, fire tests of materials of construction, and ASA Sectional Committee Z11 on Petroleum Products and Lubricants.

The next national meeting of the Society will be its Committee Week at the Hotel Statler in Buffalo, February 27 to March 2, 1956. The Annual Meeting of the Society next year will be at Atlantic City, N.J., June 17-22, 1956.

Actions taken on standards by ASTM technical committees at the Annual Meeting are given in brief below:

A-7, MALLEABLE IRON—

In addition to grades 45010, 45007, 48004, 5007, 6003, and 8002, in its proposed revision of the Specifications A 220 for Pearlite Malleable Iron Castings, the committee intends to add a 53004 grade. Assignment of the above grade designations is accomplished on the basis of the first two numbers indicating the yield point or yield strength in thousand psi, and the last number the elongation in 2 in.

COMMITTEE A-10, IRON-CHROMIUM, IRON-CHROMIUM-NICKEL AND RELATED ALLOYS—

The committee promulgated as an ASTM Standard a corrosion test method long accepted by industry —the Recommended Practice for Acidified Copper-Sulfate Test for Intergranular Attack in Austenitic Stainless Steels (A 393). In addition, method A 262 (Boiling Nitric Acid Test for Corrosion-Resistant Steels) has been revised to include an electrolytic oxalic acid etching test which may be used to estimate whether the specimens examined would show low and relatively constant rates of corrosion if subjected to the standard boiling nitric acid test.

An editorial note in Specifications A 276 (hot-rolled and cold-finished steel bars) and any other specifications under the jurisdiction of Committee A-10 having reference to types 304L and 316L cautions against the indiscriminate substitution of the low-carbon grades for type 304 and type 316.

B-2, NON-FERROUS METALS AND ALLOYS—

The proposed specifications for Sponge Titanium will be amended before publication as tentative specification. Revisions will include addition of another sampling method and change in the sample weight for determination of hardness from the present "50 g" to "100 g." A minimum button thickness of 3/8 in. will be specified as well as a 10-mm ball for the hardness test.

B-6, DIE-CASTING MATERIALS AND ALLOYS—

A table of die-casting and other characteristics for the aluminum alloys has been prepared for inclusion in the appendix to Specification B 85, Tentative Specification for Aluminum-Base Alloy Die-Castings.

B-7, LIGHT METALS AND ALLOYS, CAST AND WROUGHT—

Among the more important changes recommended in various tentatives and standards is addition of a "Basis of Purchase" section to the magnesium specifications B 80, B 90, B 91, B 92, B 93, B 107, B 199, and B 217. In addition, the tensile requirements for alloys EK-30A-T6 and EZ33A-T5 in B 80 have been increased. The Tentative Specifications for Aluminum Bars for Electrical Purposes (B 236) have been revised to add the -H111 and -H112 tempers, edgewise bend requirements, requirements for finish, and revision of dimensional tolerances.

COMMITTEE B-8, ELECTRODEPOSITED METALLIC COATINGS—

Although the committee did not meet during the Annual Meeting, a number of revisions and tentatives of standards were submitted for Society approval. Changes in Tentatives A 166 (nickel and chromium on steel), B 200 (lead on steel), and B 201 (chromate finishes on zinc) are based on the definition of significant surfaces and, the committee believes, should serve to prevent arguments on this subject which have arisen in the past. Standard A 164 (zinc on steel), A 165 (cadmium on steel), B 141, Nickel and chromium on copper) and B 142 (nickel and chromium on zinc) have been revised to indicate that "wherever possible, thicknesses should be measured by magnetic methods on the maximum number of samples practicable since such measurements are non-destructive and inexpensive." The Recommended Practice for Chromium Plating on Steel for Engineering Use, B 177, has had a cautionary note added pointing out that plated parts subject to alternating stresses or designed on the basis of fatigue characteristics should not be baked, as baking generally tends to reduce the fatigue strength.

C-1, CEMENT—

A change in the permissible $SO_3$ content for Type IV (C 150) portland cement was approved, thus changing the requirement to 2.3 percent. The committee accepted proposed revisions including reversion to tentative status of Specification for Masonry Cement (C 91), in order to incorporate revisions embodying use of the same testing procedure for strength and air entrainment currently used in the Federal specification.

A performance test for measuring potential sulfate resistance of portland cement was accepted for publication as information. Good agreement has been reached on extraction tests, sponsored by the Working Committee on $SO_3$ Content.

C-7, LIME—

The research program on soundness characteristics of limes under the direction of W. C. Voss was reviewed extensively. It is expected that the results of this program will influence the present soundness requirements for lime.

Two proposed methods on neutralization of acid wastes were approved for circulation to the committee, with more round-robin testing being planned.

C-9, CONCRETE AND CONCRETE AGGREGATES—

Revisions of the Standard Method of Test for Compressive Strength of Molded Concrete Cylinders (C 39) were approved for letter ballot of the committee, giving specific limitations on the relation of the diameter of specimen to diameter of bearing block in the compression test apparatus. Further revisions were discussed for the specifications on lightweight aggregate, in which the need for certain test methods was indicated. The proposed specification for natural pozzolanic materials was brought closer to final draft form as a result of the meeting. A revision in the Specification for Ready-Mixed Concrete (C 94) further clarifies the description of the scales for weighing cement.

D-1, PAINT, VARNISH, LACQUER, AND RELATED PRODUCTS—

The Committee and 76 of its subcommittees and working groups held meetings over a three-day period. Two new tentative methods for fire retardancy of paints fill a real need in view of the recent development and use of nonflammable type paints. These are the Cabinet Method (D 1360) and the Stick and Wick Method (D 1361). Three new tentative methods were presented covering, respectively, Alcohol in Methyl Isobutyl Ketone (D 1362), Permanganate Time of Lacquer Solvents and Diluents (D 1363), and Test for Water in Lacquer Solvents and Diluents (Fischer Reagent Titration Method (D 1364).

An important addition to the Test Methods for Traffic Paint was a new laboratory test for determining the length of drying time after application for no-smear of traffic or pavement-marking paint by the tire of an automobile. A new method for spectrophotometric Diene Value of Dehydrated Castor Oil and Its Derivatives was presented as tentative. For use in determining small daylight color differences between surface colors, there was presented a new Tentative Method of Test for Color Difference Using the Hunter Color Difference Meter (D 1365).

D-2, PETROLEUM PRODUCTS AND LUBRICANTS—

Extensions to Tables 6 and 7 and a new abridged table for liquified petroleum gases were completed to be added to the ASTM-IP Petroleum Measurement Tables (ASTM D 1250; IP 200). The extensions of Tables 6 and 7 provide values for a temperature range from 0 to —50 F for volume corrections with entry in API gravity. These additional tables are now being reviewed and checked by the Institute of Petroleum (London).

Twelve proposed methods of test were submitted for publication as information only, for trial use during the coming year. These covered such subjects as emulsion stability of cutting oils, galvanic corrosion of instrument oils, blocking point and oxidation stability of waxes, estimation of heat of combustion of petroleum, tetraethyl lead in gasoline by polarograph, consistency and deletereous substances in greases, tests for benzene and individual xylenes by infrared spectrophotometry, and water in bituminous materials.

The new proposed test for measuring color of petroleum products provides a set of glass color standards that are expressed in fundamental terms and are of proper chromaticity. This new ASTM Color Scale differs slightly from the Union Scale in that the difference in chromaticity (spacing) between the successive glasses is uniform throughout the scale.

D-4, ROAD AND PAVING MATERIALS—

Consideration was given to elimination of the low-consistency (MS-1) and the high-consistency heavy-premix grade (MS-3) in the Standard Specification for Emulsified Asphalt (D 977). Both are in the medium-setting category. In addition, the specific gravity of residue requirements will also be eliminated.

D-5, COAL AND COKE—

W. A. Selvig and O. W. Rees, who represented Committee D-5 at the meeting of the International Organization for Standardization, Technical Committee 27, Stockholm, Sweden, June 6 to 10, reviewed the actions of the ISO/TC 27 meetings. They pointed out the tremendous amount of research information available to participating members between meetings.

The committee initiated an interlaboratory series of sampling tests based upon the work presented in the Symposium on Coal Sampling, now published as Special Technical Publication No. 162. This program is intended to be used as a basis of discussion of a proposed standard sampling method to be used by the Committee D-5 delegation for presentation to ISO/TC 27 on Solid Mineral Fuels, next year.

D-8, BITUMINOUS WATERPROOFING AND ROOFING MATERIALS—

Highlight of the committee's meeting was the 50th Anniversary Luncheon held Wednesday noon, June 29. The committee was well represented, with many longtime members present.

D-9, ELECTRICAL INSULATING MATERIALS—

The committee authorized the appointment of a representative to the Coordinating Committee on Cellular Materials because of interest in the dielectric properties of plastic foams used in radomes and similar electrical applications. It was pointed out that electrical measurements at radar frequencies is a suitable subject for consideration by the committee.

The committee approved a recommendation of its advisory group to work on standards for magnet wire. It was requested as part of the recommendation that the interest of industry and other technical committees of the Society be surveyed with a view to securing adequate representation in Committee D-9 to develop magnet wire standards. Magnet wire insulations are based on a variety of coating mate-

rials including modified vinyls, polyesters, and polyurethanes as well as the phenolics.

The committee is currently engaged in another project involving an insulated conductor — copper clad laminates used in printed circuits. The project is in early draft stages in subcommittee and it will be some time before a standard will be available in print.

D-11, RUBBER AND RUBBER-LIKE MATERIALS—

The new Subcommittee XIII on Synthetic Elastometers is reviewing six methods from the Specifications for Government Synthetic Rubbers submitted by the synthetic rubber producers.

The committee submitted for adoption as standard without revision the Tentative Methods of Testing Automotive Hydraulic Brake Hose (D 571-52 T).

One of the important proposals submitted by Committee D-11 was the new Tentative Specifications for Ozone-Resistant Rubber Insulating Tape (D 1373) covering a type of tape now in wide use and commercially available.

An important change was made this year in the 90-deg Stripping Test for Adhesion of Vulcanized Rubber to Metal (D 429). The method covers the adhesion testing of rubber parts assembled to one metal plate. It has been evaluated by extensive cooperative testing and statistical analysis of the results and has been shown to be superior to the present method.

The committee took action on a number of recommendations which it plans to submit to the Society through the Administrative Committee on Standards. One of these covered a new Tentative Method for Inter-Laboratory Testing of Rubber and Rubber-Like Materials. Agreement was reached on a new Method for Determining Hardness of Elastometers at Low Temperatures based on the method submitted by the ISO Technical Committee 45 on Rubber. A new Method of Test for Stress Relaxation of Vulcanized Rubber in Compression was also completed. The method is intended particularly for the testing of rubber used as gasket materials. Extensive changes will also be recommended in the Tentative Recommended Practice for Conditioning of Rubber and Plastic Materials for Low-Temperature Testing (D 832).

D-13, TEXTILE MATERIALS—

Committee D-13's annual report contained 30 recommendations affecting standards, of which nine were new tentative methods.

At the meeting of the Advisory Committee, action was taken, subject to approval by Committee D-13, to streamline the work of the committee through establishment of separate subcommittees on methods of testing fibers, yarns, and fabrics, and also a subcommittee on chemical and performance test methods. The work on cotton fibers and wool fibers will continue to be handled by separate subcommittees. It is planned to have the organization meetings of these subcommittees during the D-13 Meetings to be held on October 18 to 21 in New York City.

The committee presented the first Methods for Testing Warp Knit Fabrics. These covered procedures for determining the yield, weight, wale, and course count, and invoiced width of warp knit fabrics.

Of particular interest were the comprehensive Methods of Test for Pilling Propensity of Textile Fabrics. These methods covered four different procedures and apparatus for determining pilling characteristics. Evaluation of pilling is very complex as it is affected by many factors such as type of fiber or blend, yarn and fabric construction, and fabric finishing treatments. The new Methods of Testing Wide Elastic Fabrics cover the testing of materials containing natural or synthetic rubber yarns in combination with textile yarns. A further contribution on the subject of abrasion was a complete new method for evaluating the abrasion resistance of textile yarns. This method supplements the present Tentative Methods of Test for Abrasion Resistance of Textile Fabrics (D 1175). Extensive changes were made in Procedures B and D of Methods D 1175.

New Tentative Methods for Maturity of Cotton Fibers (Polarized-Light Method) (D 1450), and Fineness of Cotton Fibers by Resistance to Air Flow Fibers by Resistance to Air Flow (Arealometer) (D 1149-55 T), and the new Standard Method for Length and Length Distribution of Cotton Fibers by the Array Method (D 1440) will eliminate the need for the General Methods of Testing Cotton Fibers (D 414). The latter were accordingly withdrawn.

Several very important methods were presented for determining the fineness of wool: Tentative Specifications and Method of Test for Fineness of Wool Tops (D 472), and for Fineness of Wood (D 419), new Specifications and Method of Test for Fineness of Mohair Tops (D 1379), and also revised Tentative Method of Test for Fiber Length of Wool Tops (D 519).

One very important accomplishment was the new Tentative Methods of Testing Spun and Filament Yarns Made Wholly or in Part of Man-Made Organic Base Fibers. These new methods represent a consolidation and extensive revision of the former yarn Methods D 258, D 507, and D 508.

D-17, NAVAL STORES—

Collaborative work on the Standard Methods of Testing Tall Oil (D 803-51), has indicated a number of changes which will shortly be submitted to the committee.

A proposed method was presented which tests and evaluates tall oil skimmings, the crude product of the paper pulp process from which whole tall oil is recovered by acidulation.

D-18, SOILS FOR ENGINEERING PURPOSES—

A revision of the Tentative Method of Grain-Size Analysis of Soils (D 422) is planned, which will pay particular attention to the maximum size of particle involved. Revisions to the Tentative Method of Test for Moisture-Density Relations of Soils (D 698), incorporating the

use of four sizes of materials, were approved for committee letter ballot.

An organization meeting of the new Section on Soil Conditioners was held, the first objective being to develop a scope of operation. A proposed method of test for determining chlorides in soils was approved for letter ballot of the committee.

D-19, INDUSTRIAL WATER—

Recommendations presented to the Society for action included a new Tentative Method of Test for Hydrazine in Industrial Water and revisions of 15 existing standards and tentatives.

D-20, PLASTICS—

Of special interest was the action of the committee to establish a new Subcommittee (XX) on Cellular Plastics. For the present, the subcommittee will serve as a center of activity in Committee D-20 on these materials and to provide representation to the Coordinating Committee on Cellular Materials. Presumably, the subcommittee might begin at once to develop standards for rigid foamed plastics not being handled by other ASTM committees. The rubber-like foamed plastics are being handled at present under Committee D-11 on Rubber and Rubber-Like Materials.

A new project on casting resins has been set up under Subcommittee XVI on Thermosetting Materials.

Several revisions of tentatives and new tentatives approved for ballot included an addition of 16 terms to the list of definitions (D 883), and proposed new specifications for nonrigid polyvinyl chloride, and monochlorotrifluoroethylene.

COMMITTEE E-1, METHODS OF TESTING—

It was decided to proceed with preparation of performance specifications for analytical balances. A formal organization meeting of the task group will be held during ASTM Committee Week in March, 1956. The chairman of the Task Group is L. B. Macurdy, Chief, Mass Unit, Mass and Scales Section, National Bureau of Standards.

A new Method for Indentation Hardness of Metallic Materials by Portable Hardness Testers (E-110) was accepted as tentative. This Method is applicable only to those portable hardness testers, which apply the same nominal loads, and use the same indenters as are used in ASTM Methods, E 10, E 18, and E 92.

A Method for Determination of Young's Modulus at Room Temperatures (E 111) was also accepted as tentative.

The present standard Methods of Test for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials (E 18) was revised and reverted to tentative. The Tentative Methods of Verification of Testing Machines (E 4), and the Methods of Verification of Calibration Devices for Verifying Testing Machines (E 74) were revised to include the use of the "equal-arm balance and standard weight," for verifying testing machines. The Specifications for ASTM Thermometers (E 1) were revised, and it was announced that other changes in the specifications would be made during the summer, involving the addition of six thermometers for engine testing of fuels, and specifications for the Tung oil thermometer. Also, the Specification for ASTM Hydrometer (E 100) will be revised to include 27 new general purpose specific gravity hydrometers, and a change in the over-all length of the API thermohydrometers.

E-5, FIRE TESTS OF MATERIALS AND CONSTRUCTION—

The widely used Standard Methods of Fire Tests of Building Construction and Materials (E 119) will receive further revisions as a result of the June meetings of the committee. Changes were recommended, placing a restriction upon the use of the alternate test for solid structural steel beams and girders where the protection is not required by design to function structurally.

F-1, MATERIALS FOR ELECTRON TUBES AND SEMICONDUCTOR DEVICES—

The committee held its organization meeting. Subcommittee VIII on Metallic Materials for Radio Tubes and Incandescent Lamps of Committee B-4 on Metals for Electrical Heating, Electrical Resistance, and Electronic Applications had been separated from Committee B-4 to serve as the nucleus for Committee F-1.

Activities having to do with electron tubes have been carried over from the work of Committee B-4. In addition, two new groups were organized — on luminescent materials and on semiconductor metals.

S. A. Standing, chairman of Committee F-1 (and ex-chairman of Committee B-4), presided over the initial meeting.

It was recognized that there are problems in this field of a materials type such as those normally covered by ASTM but that difficulties exist owing to the complexity of tube and lamp processing with respect to the characteristics of luminescent materials. It was suggested that initial efforts of the new group be directed toward development of test methods for particle size of phosphors used in cathode ray tubes, method of test for light output, and development of a standard tube of the demountable type to be used for evaluation work. Awareness of the activities of the Joint Electron Tube Engineering Council, Institute of Radio Engineers, and the Electrochemical Society was expressed. It was agreed, however, that as long as the ASTM committee confines its activities to the material aspects, including test methods and promotion of knowledge relating to tests and properties of materials, there was not likely to be any overlapping of activities. Members of these other organizations will be encouraged to participate in the ASTM activity and to provide liaison where applicable.

The initial meeting of the new Subcommittee VI to develop standards for semiconductor materials

was well attended by representatives of producers, consumers, and general interest organizations. Particularly well represented were the electronics companies which are currently producing semiconductor devices and are therefore rated as consumers of semiconductor materials such as germanium, silicon, and selenium. It was evident from the discussion that those present felt there is a definite need for standards for semiconductor materials. It was suggested that the initial efforts be on germanium rather than silicon because of the relative simplicity of the germanium problems as compared with those of silicon.

*Excerpts from the Annual Address by the President at the Annual Meeting of the American Society for Testing Materials, June 28, 1955*

# What Is It?

by NORMAN L. MOCHEL

*Manager, Metallurgical Engineering, Westinghouse Electric Corp, Philadelphia, Pa.*

*Norman L. Mochel*

You will all recall, from the rather wide newspaper coverage, a serious mishap that occurred during the dock trials of our first atomic-powered submarine, the *Nautilus,* in that a steam pipe burst under pressure, with injury to operating personnel and serious delay in putting the *Nautilus* to sea. It developed, as all who read must know, that the failed pipe was not of proper grade. The piping had been ordered to an ASTM specification, and immediately the specification, the several revisions that had been made to it, and the entire question of marking and ready identification was a fit subject for critical examination.

*Examples—Military; Fibers; Pressure Vessels; Metal Products; Drugs*

The identification of pipe lines and compressed gas cylinders has long been an important matter. There have been serious disfigurements and even deaths from errors from poor identification of both. Military Standard 101A was issued last year. An excellently stated Foreword to the specification ends in this manner: "While this standard was prepared for use by the Military Establishments, it is the hope that industry as a whole will eventually adopt this color code." I recently called to the attention of the operating head of a new and large engineering laboratory that there was such a specification and, knowing that he would have a growing problem of identification of both piping and gas cylinders, suggested that he consider its adoption. Upon being told that his piping problem was too complicated, if anything, the very reason for the adoption of the specification, I must confess I gave up.

One reads with much interest of the many synthetic fibers on the market or ready to go on the market, or still in the pilot plant or test tube stage. One appreciates the tremendous testing program under way today, as you and I carry out this program by buying and wearing the product application of these fibers. Take a good look, the textile experts say, at the label on any new blended fabric and make sure it states the exact percentages of each fiber. They say that this will not mean much to you; to this I would disagree in part, since you and I will report the actual results in the old law of demand, but they point out a responsible manufacturer will not hesitate to say just what his material contains.

I have already made reference to the Military Specification for identifying pipe lines and gas cylinders. Work is progressing along military and national lines and in other fields as well. For example, a specification covering the identification of iron and steel products in general has had wide attention. As another example, one dealing with the Nylon Cord Manufacturers Color Code Identification is worthy of reference in the aviation field. I think we are all familiar with excellent identification practices on the part of the fire underwriters, on electrical parts and on boilers and heat exchangers. The identification system devised by the National Electrical Manufacturers Association for welding electrodes is an important matter, worthy of note. And even such things as chocolate candy have identification practices.

Private companies have effected identification systems based on colors for their product. It is noted that the Aluminum Company of America has a color system for distributors' stocks of aluminum and its alloys. Other nation-wide distributors of metal products have color standards. And nearly every consuming interest has an internal color standard. But the same color means something widely different from place to place, and this means trouble some place, sometime, for someone.

I hold in my hand a metal container, full of white pills, of a well-known article, which after these rambling words, I may have to use this afternoon. If I lose these particular pills from this container, I shall still know what they are, for each pill is double marked. It gives me confidence. I have a good friend who operates a very high-grade apothecary establishment. I was interested to know how far the manu-

facturers of drugs had gone in identification on the pills as well as on the package. By printing, forming, indenting, speckling, full and partial colors, as well as size and shape, I found tremendous strides are being made in this field of which I know very little. Yet, I picked up, just for example, eight different white pills about the size of those in my container. They are entirely different. They range from common sodium bicarbonate to several rather potent drugs. I mix them, and I am lost. The containers are very pretty, I shall save them. The eight white pills must go down the drain.

*Pipe and Its Problem*

Now it's a far cry from pills to pipe. They have common letters *p* and *i*—they're usually round. But here the similarity ends. Yet we have a similar problem. Here are three pieces of steel pipe, all of the same diameter and wall thickness. One is butt-welded pipe for very ordinary services; the second is of seamless carbon steel for higher grade services; the third an alloy steel for high-pressure service at red heat. At this stage, they have lost their identity. Some here who are experts might pick out the poorest grade. Most of you could not. Misapplication may bring death, injury, and loss of property. And yet we allow the identification of smaller sizes of these pipes—and do not even define what are "smaller sizes" —by tying in a bundle and tying a metal tag to the bundle. And the statement has been made that it is just a matter of good housekeeping to keep these various grades of pipe properly identified and safely applied at all times. And here's a piece of stainless steel tubing for use at higher temperatures and pressures. A little bit of alloy addition allows its use at far higher stresses at these red heats than similar steel without the additional alloy. And with no marking provided and absolutely no difference in appearance, we expect good housekeeping to keep us safe from harm. I am told that a marine boiler recently taken from a ship contained everything from plain carbon steel to 4 percent chromium steel, mixed "willy-nilly" throughout. Good housekeeping! I wonder how the ladies would feel in our large grocery stores that keep getting larger and larger, if all the canned goods were identified only by the crates they came in. Even this is better than the tied bundles of pipe. And imagine our shelves in the stores filled with bare cans, and you ladies were dependent only on good housekeeping at the stores, and in your own storage, as to whether the can contained corn or peaches, or what not. I'm sure you ladies just would not put up with such a situation and would demand better identification.

*ASTM Standards—More Marking?*

I have made no attempt to read all of the specifications in our seven volumes of standards. But I did make spot checks in all fields, and I am convinced that, as a Society creating specifications for engineering materials, we have left much undone in our work. In many cases, we require only that the name of the manufacturer shall appear. So often we do not require marking to show that the material meets our own ASTM specification, and that's not very good advertising! I watched the unloading of a truck load of bags of cement the other day. Some bags were prominently marked as meeting such and such grade of an ASTM specification. But a large part of the lot was not marked. Was this a grade too poor to be marked? I looked into it and found that we do not require that the lowest grade in the specifications be marked. Advertising is a good way to communicate to the public. I look at every load of ready-mixed concrete that passes me on the street, and the day I see one with a large sign on it that the product in this truck meets an ASTM specification, I'll doff my hat and say "Well done," or "Amen."

Everywhere I go, I see products that *were made* or *should have been made* to ASTM specifications. And there are many important applications where it appears to me that identification to the specifications should be there for *all* to see. In my opinion, we have done well in our identification requirements in many; we have done average in many; we have done poorly in others. It's a little like my friend Touchstone, the jester of *As You Like It,* who said when he received the answer "So so" to a question. His remark was:

"So so is good, very good, very excellent good;
And yet it is not, it is just so so."

And I think we should stop being just "So so."

And then there are new fields ahead. We have a new subcommittee on hydraulic lubricants. Recently several of us were visiting at a plant where a turbine was operating on a synthetic lubricant. One of our number innocently did what any engineer would do—stuck his hand in an exposed flow to "feel" the oil. Quickly, without a word he was unceremoniously rushed to a washroom and washed free of the liquid. Whether the matter was real or for effect, I do not know. Another friend instinctively picked up a mechanical part that had been in service where nuclear products were involved. He was rushed to a decontamination center forthwith. These are merely referred to as evidence of the more complex things ahead.

It follows that as life becomes more complicated, as the atomic age comes in, and more dangers are present, if we are to really believe as Dr. Maxwell said that people are infinitely more important than things, then for self protection people will have to pay more attention to this matter of identification.

In conclusion, I ask myself and you three questions:

1. Will we take this matter seriously and solve those problems before us?

2. Or will we wait until the public takes it in hand and by legislation takes over?

3. Must we perfect and further develop test apparatus and methods that will permit checking of materials in final place—before actual operation?

I close with a suggested slogan: "He who creates shall identify."

# NEWS BRIEFS

**Electrical Standards Board Adopts New Constitution**

The Electrical Standards Board, organized in 1926 as the Electrical Advisory Committee to help coordinate all the technical work on American Standards in the electrical field, has just streamlined its operations by adopting a revised constitution.

The Board has gone through a number of changes in its nearly 30-year history.

The original Electrical Advisory Committee was reorganized in 1931 to become the Electrical Standards Committee with a constitution that gave it authority to serve as a sectional committee and as sponsor for projects. This was in addition to the judicial and supervisory functions that are the primary responsibility of all ASA's Standards Boards. At that time, the international work on electrical standards became part of the responsibility of the Electrical Standards Committee, too. This was brought about through an arrangement whereby the Committee (now the ESB) works through the United States National Committee of the International Electrotechnical Commission on international matters.

Under its 1931 constitution, the Electrical Standards Board has supervised the work of 54 sectional committees, has recommended approval of approximately 400 American Standards, and through the United States National Committee is working on international recommendation on 35 technical committees of the IEC.

In 1948, the expansion of its work in all fields encouraged the Board to divide its functions and set up two divisions—one on electrical power and the other on communications.

The present change in the Board's constitution brings its activities more nearly into line with those of other standards boards by providing that ESB can no longer act as a sectional committee. As in the case of other Standards Boards, when ESB acts as sponsor for committees under its jurisdiction, its recommendations will be reviewed by another Board acting in a judicial capacity.

Recently the work of the Board has been expanded into the new field of automation with initiation of a project to develop standard terminology for automatic controls. The American Society of Mechanical Engineers has been invited to serve as sponsor. The committee has already held two meetings.

Another new project initiated recently is on shockproof cable terminals and receptacles for use on x-ray equipment. This project grew out of a request by the Federal Supply Service, General Services Administration. The Supply Service submitted Federal Standard No. 72, entitled Shockproof Cable Terminal and Receptacle for Use on X-Ray Equipment, to ASA for approval as American Standard, and requested that a project be initiated under ASA procedure on this subject. A General Conference considered the request and voted unanimously to recommend to ASA that a project be initiated and that the General Services Administration and the National Electrical Manufacturers Association be invited to serve as co-sponsors. The project will cover standards for dimensional interchangeability, rating, and performance requirements of shockproof high-voltage cable terminals and receptacles for use on x-ray equipment. Federal Standard No. 72 is not being considered for approval until the committee is organized and can review it for recommendation on approval.

Recently, too, a long-dormant project on apparatus bushing standardization was reactivated with the American Institute of Electrical Engineers as sponsor in place of the Electrical Standards Board. The scope of the committee's work will now cover standards and test codes for all apparatus bushings as well as roof, floor, and wall bushings. It will not, however, cover potheads for cable terminals, nor insulators for back-connected disconnecting switches, nor bushings for communication equipment.

American Standards approved during the past year under the supervision of the Electrical Standards Board include standards on dry cells and batteries; instrument transformers; porcelain insulators; preferred ratings for power circuit breakers; switchgear assemblies; test code for polyphase induction motors and generators; apparatus bushings used with power circuit breakers and outdoor transformers; low voltage air circuit breakers; rated control voltages and ranges for low voltage air circuit breakers; and a series of standards on lamps. A number of proposed standards on transformers have been distributed for trial and study.

• A new committee on electronics materials has been organized by the American Society for Testing Materials. Designated F-1 on Materials

**Officers of** *newly formed ASTM committee F-1 are, from left to right: Stanton Umbreit, Secretary, S. A. Standing, chairman, and Frank J. Biondi, vice-chairman*

for Electron Tubes and Semiconductor Devices, it will be concerned with materials such as grid wires, cathodes, mica stampings, glass-to-metal seals and luminescent materials used in cathode ray tubes and in fluorescent lighting. In view of its concern with many different materials, the new committee will be working closely with several other technical committees of the Society.

Although ASTM technical committees have been concerned with materials for specific uses or functions for many years, the committees have been organized generally with a scope of activity directed toward a specific material or class of material. Committee F-1 will be concerned with all classes of materials for the indicated specific uses or functions. As in other ASTM committees, emphasis will be on research leading to increased knowledge of the materials as a basis for sound specifications and methods of test.

It is expected that an "F" series of committees will develop as the sixth series of ASTM technical committees, taking their place beside groups on Ferrous Metals ("A" series), Non-Ferrous Metals ("B" series), Ceramic and Masonry ("C" series), Miscellaneous Materials ("D" series), and Miscellaneous Subjects ("E" series). Unlike these other committees, which are concerned with one broad class of materials (the "A" series, for example, with steel, cast iron, corrosion of iron and steel, etc), the new "F" committees will be concerned with all types of materials for the specified purposes, and their scopes will be based on use and function rather than on specific materials.

The officers of Committee F-1 are: S. A. Standing, Raytheon Manufacturing Company, Quincy, Mass., *Chairman;* F. J. Biondi, Bell Telephone Laboratories, Murray Hill, N. J., *Vice-Chairman;* and S. Umbreit, RCA Victor Division, Radio Corporation of America, Harrison, N. J., *Secretary*.

• Howard P. Seelye, member of ASA's Standards Council since 1953 and recently also a member of the Board of Review, retired July 1. Mr Seelye was Manager of Engineering for Detroit Edison Company, and had been with the company for 39 years.

Mr Seelye is a specialist in system engineering planning and author of many books, among them, *The Economics of Electrical Distribution* and *Electrical Distribution Engineering*. He has served as chairman of a number of committees of the Edison Electric Institute, and has been a technical advisor to the United States National Committee of the International Electrotechnical Commission.

• The session on standardization at the 1955 Convention of the National Association of Purchasing Agents was an outstanding success, the Association reports. Some 300 persons attended. The program was built around the new *Manual* (reviewed in THE MAG OF STDS, July, 1955, page 216).

Speakers who discussed the various chapters of the *Manual* represented small, medium, and large organizations. In terms applied to each of those groups, they attempted to supply answers to these questions:

What are standardization and simplification?
What is the purchasing agent's part in standardization?
How does one start a standardization program in a company?
What is the American Standards Association; how does it work?
Where can we obtain more information on standards?

The speakers were Harlan E. Cross, Purchasing Agent, Supplies, U.S. Pipe & Foundry Company, Birmingham, Ala.; A. O. Anderson, District Purchasing Agents, Aluminum Company of America, Cleveland, Ohio; and Leonard Butters, Purchasing Agent, Union Steel Products Company, Albion, Mich.

Mr Cross is vice-chairman of the NAPA Committee on Standardization; and both Mr Anderson and Mr Butters are chairmen of NAPA District Committees on Standardization. E. H. Weaver, chairman of the NAPA Committee on Standardization, was moderator.

• Carl F. Brooks, code representative of the Frigidaire Division, General Motors Corporation, has been elected chairman of the Refrigeration Industry Safety Advisory Committee (RISAC). Mr Brooks is a member of the ASA Interpretations Subcommittee which is charged with interpreting the provisions of the American Standard Safety Code for Mechanical Refrigeration.

• T. E. Veltfort, manager, Copper and Brass Research Association, announces availability of a complete line of cast brass solder type drainage fittings conforming to American Standard B16.23. Copper drainage tube differs from copper water tube in that the walls are not as thick, because it is subject to little or no water pressure.

• Copies of the Proposed American Standard Specification for the Design, Construction, and Operation of Class HI (High-Impact) Shock Testing Machine for Lightweight Equipment, Z24.17, have been circulated to the ABC (American, British, Canadian) Naval Tripartite committee on mechanical vibration and shock. This document promises to be of great aid in formulating a standard for the three English-speaking navies.

• A. R. Gatewood, Chief Engineer Surveyor, American Bureau of Shipping, will head a delegation that will represent USA at an international meeting on electrical installations on ships at The Hague, December 6-9, 1955. The committee is Technical Committee 18 of the International Electrotechnical Commission. Other members of the delegation will be Captain Joseph B. Feder, U.S. Coast Guard; W. E. Jacobsen, Assistant Manager, Federal and Marine Engineering Division, General Electric Company; and Norman Zippler, Chief Electrical Engineer, Gibbs and Cox, Inc.

The delegation will represent the U.S. National Committee of IEC which is affiliated with the Electrical Standards Board of the American Standards Association.

# FROM OTHER COUNTRIES

Members of the American Standards Association may borrow from the ASA Library copies of any of the following standards recently received from other countries. Orders may also be sent to the country of origin through the ASA office. Titles are given here in English, but documents are in the language of the country from which they were received. An asterisk * indicates that the standard is available in English as well. For the convenience of readers, the standards are listed under their general UDC classifications. In ordering please refer to the number following the title.

### 511 ARITHMETIC. THEORY OF NUMBERS

*Portugal (IGPAI)*

Rules for rounding of numbers P-79

### 543 ANALYTICAL CHEMISTRY

*Switzerland (SNV)*

Determination of the content of dissolved and insoluble ingredients in water SNV 81511

### 615.478 HOSPITAL EQUIPMENT

*Finland (SFS)*

3 stds for electrically heated instrument sterilizers SFS Z.IV.74, .75, .76
Round bandage containers for use in autoclaves SFS Z.IV.73
Irrigators for use in hospitals SFS Z.IV.55
Stationary Instrument Sterilizers with electric or steam heating. Dimensions SFS Z.IV.77
Bed Pan Sterilizers with electric or steam heating SFS Z.IV.78
Separation screens for use in hospitals SFS .Z.IV.205

### 621.3 ELECTRICAL ENGINEERING

*Brazil (ABNT)*

Electrotechnical Vocabulary, Group 20, Part 1a TB-19 R

*Finland (SFS)*

5 stds for threads and thread gages for lampshades SFS C.XI. 2/7
Rubber gaskets for lampholders SFS C.XI.30
Rubber gaskets for lighting fixtures SFS C.XI.31
Fluorescent lamps with two-pin base. Dimensions, markings SFS C.XI.71
Graphical Symbols for electrical diagrams SFS C.I.20
Connection diagrams for kwh meters SFS C.III.20
Nameplates for kwh meters SFS C.III.21
Single-phase kwh-meter-boxes for enclosed switchgear SFS C.IV.37
Three-phase kwh meter-boxes for enclosed switchgear SFS C.IV.38
Cartridge fuse-links for max. 500 volts SFS C.V.1
Fuse-bases for cartridge fuse-links SFS C.V.2
Single-phase kWh meter-boards and group boards SFS C.V.35

*India (ISI)*

Dry battery operated community radio receivers IS 705-1955
AC power operated community radio receiver IS 706-1955
Procedures for Basic Climatic Tests for Electronic Components IS 589
Fixed paper dielectric capacitors IS 590
Low-power, low-voltage mains transformers for radio receivers, amplifiers, small transmitters and similar purposes IS 591
Audio output transformers for radio receivers, amplifiers, small transmitters and similar purposes IS 592
Methods of measurements on receivers for amplitude modulation broadcast transmissions IS 614
Minimum electrical performance requirements of domestic radio receivers IS 615

*United Kingdom (BSI)*

The electrical performance of rotating electrical machinery 2613:1955

### 621.643 PIPES AND ACCESSORY PARTS

*Finland (SFS)*

Steel tubes, seamless, without threads. Dimensions SFS B.VIII.23

### 621.81 HOISTING MACHINERY

*Brazil (ABNT)*

Elevators NB-30 R, TB-6 R

### 621.88 MEANS OF ATTACHMENT

*Finland (SFS)*

Three types of washers for wooden constructions SFS B.V.156/8
Clearance holes for screws SFS B.V.3

### 624.13 EARTHWORK

*Rumania (CSS)*

Determination of permeability factor of soils and gravels STAS 4166-53
Excavation spades STAS 4488-54

### 625 TECHNIQUE OF TRAFFIC ROUTES ON LAND

*Rumania (CSS)*

Grade signs for railroad tracks STAS 4546-54
Stop signs for railroad tracks STAS 4547-54

### 625.2 RAILWAY ROLLING STOCK

*Brazil (ABNT)*

Car Truck parts, Terminology TB-5 R

*Rumania (CSS)*

Railroad car brakes STAS 2424-54

### 625.75 TREATMENT OF ROAD SURFACES

*United Kingdom (BSI)*

Recommendations for the use of bitumen emulsion for roads 2542:1954

### 625.8 PAVING OF ROADS AND HIGHWAYS

*Rumania (CSS)*

Macadam semipenetrated with bitumen STAS 4557-54

### 628.2 SEWERS

*Rumania (CSS)*

Concrete pipes STAS 816-54

### 628.9 ILLUMINATION

*Belgium (IBN)*

Code of good practice for school lighting NBN 353

### 629.113 MOTOR VEHICLES

*France (AFNOR)*

Automobile projector (spotlight) NF R 143-04
Tail reflectors NF R 143-15/6
Bumpers with vertical garde-bars NF R 144-03
Fuel gage NF R 161-50
Fuel pumps NF R 162-04
Flexible tubing NF R 162-07/8
Ball and Socket command connection NF R 163-07
Mounting of carburator on motor NF R 263-01
Pneumatic and electric connectors of trailers NF R 411-55
Trailer-type trucks NF R 411-60
Ball and Socket connectors for small trailers NF R 412-02
Crown-slotted nuts, light type NF R 932-09
Hexagon nuts, light series NF R 932-10
Lock washers NF R 933-03/4

### 631.3 AGRICULTURAL TOOLS AND MACHINERY

*France (AFNOR)*

Tractor tires NF U 12-001

*Rumania (CSS)*

Hoe STAS 269-1954
Foresters' spades STAS 2591-54

### 631.4 SOIL SCIENCE

*Brazil (ABNT)*

7 Recommended Standards pertaining to Soil Studies NB-12 R, NB-28 R, NB-29 R, MB-55 R, TB-3 R, -7 R, -16R

### 632 PROTECTION OF PLANTS. PHYTOPATHOLOGY

*Rumania (CSS)*

Insecticide sprayer STAS 4407-54

### 643.353 KITCHEN EQUIPMENT

*Australia (SAA)*

Half-pint measures and measuring spoons A.S. No.S.2-1954

### 645 FURNITURE

*Rumania (CSS)*

3 types of wooden clothing cupboard STAS 4415/17-54
Wooden bed STAS 4418-54
Wooden dresser STAS 4420-54
Wooden luggage stand STAS 4423-54
Wooden book-shelves STAS 4424-54

### 665 OILS. FATS. WAXES

*Rumania (CSS)*

Highly refined mineral oil STAS 177-54

### 666 GLASS AND CERAMIC INDUSTRY

*Argentina (IRAM)*

7 stds for different tests of refractory products: IRAM 1560, 1563, 1591, 1593, 1595, 1599, 1600

*Rumania (CSS)*

Glass bottles, general STAS 1334-54
Demijohns, industrial STAS 2062, 4498
Chemical analysis of silico-aluminum products STAS 166-54
Bricks for lining Martin Furnaces STAS 1852-54
Bricks for Copper Stove STAS 4471-54
Bricks for glass-melting furnace STAS 4473-54
Silica bricks STAS 4514-54

### 668.4 GUMS AND RESINS

*Portugal (IGPAI)*

Testing distilled turpentine P-78

**669 METALLURGY**

***France (AFNOR)***

| | |
|---|---|
| Galvanized sheets, plain and corrugated | NF A 36-320 |
| Thin welded steel pipes | NF A 48-102/3 |

***Germany (DNA)***

| | |
|---|---|
| Determination of ondulation of electrical steel sheets | DIN 50642 |

***Rumania (CSS)***

| | |
|---|---|
| Carbon steel wire, drawn, for springs | STAS 893-54 |
| Steel band hot rolled | STAS 908-54 |

***United Kingdom (BSI)***

| | |
|---|---|
| Methods for the analysis of iron and steel | |
| Part 35:Aluminum in iron, steel and ferro-alloys (after mercury cathode separation) | 1121:Part 35:1955 |
| Part 34:Molybdenum in iron and steel (absorptiometric method) | 1121:Part 34:1955 |
| Recommended method for mercury cathode electrolysis for use in the analysis of iron, steel and ferro-alloys | 1121C:1955 |
| Aluminum alloy sections for marine purposes | 2614:1955 |

**672 ARTICLES OF IRON AND STEEL**

***Bulgaria (BDS)***

| | |
|---|---|
| Coal heated flat irons | BDS 1598-53 |

***Rumania (CSS)***

| | |
|---|---|
| Hand scoopers, metal | STAS 4408-54 |
| Trowels | STAS 4452-54 |
| Storm lanters | STAS 4503-54 |

**674 WOOD INDUSTRY**

***Bulgaria (BDS)***

| | |
|---|---|
| Wooden Poles type "A" | BDS 1593-53 |
| Wooden handles | BDS 1604-54 |
| Pamphlet containing 50 stds for different wooden products | BDS 137-53 . . . |
| Apple packing crates | BDS 1859-54 |
| Packing cases for rubber and leather goods | BDS 1504-53 |

***Rumania (CSS)***

| | |
|---|---|
| Lumber, terminology | STAS 435-54 |

**675 LEATHER INDUSTRY**

***Brazil (ABNT)***

| | |
|---|---|
| Hides. Recommended terminology and classification | TB-10 R |

***Bulgaria (BDS)***

| | |
|---|---|
| Telegraph messenger's leather bag | BDS 1665-54 |
| 5 stds for different grades of leather | BDS 1646/7, 1661/3 -54 |

**676 PAPER INDUSTRY**

***Rumania (CSS)***

| | |
|---|---|
| Classification of paper and pasteboard for general use | STAS 2163-54 |
| Analysis of fiber material in paper and pasteboards | STAS 3974-53 |

**677 TEXTILE INDUSTRY**

***Belgium (IBN)***

| | |
|---|---|
| Determination of color fastness | NBN 330 |

***Bulgaria (BDS)***

| | |
|---|---|
| Cotton Tarpaulin | BDS 1064-54 |
| Shoe laces, silk | BDS 1684-54 |
| Upholstery, hemp-tape | BDS 1716-54 |
| Heavy cheviot for overcoats | BDS 1739-54 |
| Quality std for ready-made silk clothes | BDS 334-54 |
| Grades of cotton fabrics | BDS 443-54 |
| Cotton yarn, carded, twisted | BDS 1879-54 |
| Cotton-base soldiers' blankets | BDS 1898-54 |
| Woolen fabric "double" | BDS 1908-54 |
| Wool and cellulose cheviot fabric | BDS 1791-54 |
| Overcoat fabric, heavy | BDS 1831-54 |

***Rumania (CSS)***

| | |
|---|---|
| Technical cotton fabric | STAS 347-54 |
| Pure wool or mixed wool fabric | STAS 779-53 |
| Different knitted fabrics | STAS 1279-54 |
| Cotton and cotton-cellulose thead | STAS 4363-54 |
| Paper cones for spinning machines | STAS 4439-54 |

***Switzerland (SNV)***

| | |
|---|---|
| 2 stds: Rules for establishing series of measurements of accidentally varying sizes and for calculating their statistical factor | SNV 95181/2 |
| Sampling of cotton and fibrane specimens for physical and chemical tests | SNV 96401 |
| Sampling of raw and washed wool specimens for physical and chemical tests | SNV 96403 |
| Sampling of combed and spread fiber and woolen sliver for individual measurement | SNV 96406 |
| 3 stds for different methods of length measurement of cotton and fibrane | SNV 96411/3 |
| Conditioning of cotton, linen, hemp, woolen, woolen and fibrane test specimens | SNV 96441 |
| Determination of yarn count | SNV 98452 |
| Spray-test of textiles | SNV 98576 |
| Rules for washing woven and knit cotton and linen fabrics for determination of their resistance to washing | SNV 98711 |

***USSR (GOST)***

| | |
|---|---|
| Spinning machines, method of testing | GOST 6987 |
| Silk cords | GOST 1768 |
| Drapery tulle | GOST 6412 |
| Fabrics with natural silk nap | GOST 7081 |
| Fabrics with woolen nap | GOST 7082 |
| Knitted men's and children's drawers | GOST 820 |
| Boys' undershirts | GOST 7007 |
| Bedding and sports goods linen | GOST 7029 |

**678 RUBBER INDUSTRY**

***France (AFNOR)***

| | |
|---|---|
| Rubber conveyor belts, dimensions | NF T 47-100 |

***Rumania (CSS)***

| | |
|---|---|
| Hot-water bottle, rubber | STAS 4399-54 |

***USSR (GOST)***

| | |
|---|---|
| Rubber tubes for medical purposes | GOST 3399 |
| Rubber heels | GOST 385 |
| Rubber used in electric cable manufacturing | GOST 2068 |
| Determination of the elasticity of rubber | GOST 6950 |
| Ozon-resistance test of rubber | GOST 6949 |

**679.5 PLASTIC INDUSTRY**

***Argentina (IRAM)***

| | |
|---|---|
| 4 stds for different plasticizers | IRAM 1099, 1101/2, 1128 |

***Bulgaria (BDS)***

| | |
|---|---|
| Sanitary oil cloth | BDS 1793-54 |
| Sanitary sheets for babies | BDS 1794-54 |
| Operating table sanitary sheets | BDS 1795-54 |

**679.8 STONE INDUSTRY**

***Rumania (CSS)***

| | |
|---|---|
| Stone-crusher's hammer | STAS 4362-54 |
| Mason's hammer | STAS 4375-54 |

**681.2 INSTRUMENT MAKING**

***Rumania (CSS)***

| | |
|---|---|
| Handles for plug gages | STAS 4351-54 |
| Lactodensimeters | STAS 4384-54 |
| Plug gages for screw thread | STAS 4445-54 |

**681.8 TECHNICAL ACOUSTICS. RECORDING AND REPRODUCTION OF SOUND**

***United Kingdom (BSI)***

| | |
|---|---|
| Gramaphone records, transcription disk recordings and disk reproducing equipment | 1928:1955 |

**686.1 BOOKBINDING**

***Bulgaria (BDS)***

| | |
|---|---|
| Books and periodicals—binding | BDS 1556-53 |

***USSR (GOST)***

| | |
|---|---|
| Wire stitching machines | GOST 6970 |
| Base for gold-leaf transfer paper | GOST 6952 |

**69 BUILDING INDUSTRIES AND TRADES**

***Argentina (IRAM)***

| | |
|---|---|
| Concrete hollow blocks | IRAM 1566 |
| Testing for compression of freshly mixed concrete | IRAM 1602 |
| 14 stds for different tests of asphalt sautrated felts | IRAM 1558/9, 1561, 1575/83, 1588/9. |

***Belgium (IBN)***

| | |
|---|---|
| Code of good practice for slate roofing | NBN 305 |

***Bulgaria (BDS)***

| | |
|---|---|
| Diatomaceus bricks | BDS 1918-54 |

***France (AFNOR)***

| | |
|---|---|
| Portland Cement (Supplement) | NF P 15-302 |
| Ageing of pastes | NF P 84-351 |

***Germany (DNA)***

| | |
|---|---|
| Cinder blocks, solid and hollow | DIN 106, B1.1 |
| Shutters, venetian blind type | DIN 1807/5 |

***Rumania (CSS)***

| | |
|---|---|
| Wooden windows for schools | STAS 4381-54 |

***Spain (IRATRA)***

| | |
|---|---|
| Determination of moisture absorption of roofing slates | UNE 7089 |

***United Kingdom (BSI)***

| | |
|---|---|
| Thermoplastic flooring tiles sometimes known as 'asphalt' tiles | 2592:1955 |

***USSR (GOST)***

| | |
|---|---|
| Method of testing concrete | GOST 6901 |
| Method of testing of wall-facing materials for moisture-and-frost-resistance | GOST 7025 |
| Hydraulic binders | GOST 6269 |

**697 HEATING AND VENTILATION**

***Brazil (ABNT)***

| | |
|---|---|
| Air-conditioning. Terminology | TB-1 R |

***Spain (IRATRA)***

| | |
|---|---|
| Rules for calculating boilers for central heating | UNE 9011 |

**74 DRAWING**

***Australia (SAA)***

| | |
|---|---|
| Architectural and building drawing practice | A.S. No. CA.25-1955 |

***Bulgaria (BDS)***

| | |
|---|---|
| Pipe line drawing symbols | BDS 1651-54 |
| Title and specification blocks | BDS 1727-54 |

**77 PHOTOGRAPHY**

***Belgium (IBN)***

| | |
|---|---|
| Reproduction of documents on 16 mm and 35 mm roll films | NBN 360 |

***Germany (DNA)***

| | |
|---|---|
| Spool 60 for roll film cameras | DIN 4529 |

***USSR (GOST)***

| | |
|---|---|
| 35 mm film magazines for still picture cameras | GOST 3543 |

# Fourth International Meeting on Coal and Coke

by W. A. SELVIG

*U.S. Bureau of Mines; leader, USA delegation to Technical Committee 27; USA representative, Coal Classification Working Party, Economic Commission for Europe*

SIXTY-ONE delegates and observers attended meetings in Stockholm, Sweden, June 6-10, 1955, of Technical Committee 27 on Solid Mineral Fuels, International Organization for Standardization. Delegates were present from Belgium, Czechoslovakia, Denmark, East Germany, France, India, Italy, the Netherlands, Poland, Spain, Sweden, the United Kingdom, the USA, and West Germany. Observers were present from Norway, Turkey, and the USSR. W. A. Selvig of the Pittsburgh Station, U.S. Bureau of Mines, and O. W. Rees of the Illinois Geological Survey, Urbana, Illinois, were the American delegates representing the American Standards Association.

This was the fourth meeting of the committee which is actively engaged in formulating international standard methods for the sampling and analysis of coal and coke. Previous meetings have been held in London, headquarters of the British Standards Institution which serves as the Secretariat of the committee.

Among the items that were considered for standardization for coal analysis were methods for determination of moisture, ash, volatile matter, carbon and hydrogen, sulfur, forms of sulfur, swelling and coking tests for evaluating coking characteristics, phosphorus, chlorine, arsenic, tar yields from brown coal and lignites, and determination of mineral matter in coal.

It was agreed to organize working groups to study methods of determination of moisture in coal by azeotropic distillation, the determination of ash in brown coals and lignites, determination of arsenic in coal, determination of fusibility of coal ash, and physical tests for coke. A subcommittee is to be formed to consider the subject of terminology in coal washing processes, and methods of expressing results of coal washing tests.

A special working group on moisture determination in coal recommended that moisture in coal be determined by heating the coal in an atmosphere of inert gas. The delegations from the USA, Belgium, and the Netherlands questioned the need of inert atmospheres in the determination of moisture for the higher rank coals. The American delegates agreed to conduct experimental work to determine if simple oven heating in air would not give sufficiently accurate results for anthracites, semi-anthracites, and for low, medium, and high volatile bituminous coals. This experimental work will be conducted in the laboratories of the U.S. Bureau of Mines in Pittsburgh and the Illinois Geological Survey at Urbana, Illinois.

In attending these meetings one is impressed with the large amount of investigative work on coal analysis methods that is being done by the participating countries. The British Standards Institution, which serves as the Secretariat with the aid of various national organizations in the United Kingdom, is to be commended on its efficient and energetic handling of the large amount of detailed work involved in the preparation of draft proposals of methods and their revisions. Some of the national delegations, includ-


**The delegates** *attending meeting of ISO Technical Committee 27 on Solid Mineral Fuels, Stockholm June 6-10, 1955*

ing the United States, have difficulty in keeping up with the progress of the work as it is being pushed forward so rapidly.

At the completion of the meetings, W. A. Selvig, at the request of the U.S. Department of State, attended the eleventh session of the Classification Working Party, Coal Committee, Economic Commission for Europe, held June 29-July 1, in Geneva, Switzerland. Delegates were present from Austria, Belgium, Denmark, East Germany, France, Hungary, Italy, the Netherlands, Poland, Sweden, the Union of Soviet Socialist Republics, the United Kingdom, the United States, West Germany, and Yugoslavia.

This committee has completed a system of classification of all coals higher in rank than lignites and brown coals, which system is based on volatile matter, caloric value, and coking characteristics. Basically it is quite similar to the American Standard Specification for Classification of Coals by Rank, ASA M20.1-1938, except that it is more detailed in that it makes use of coking properties for the grouping together of similar coals.

The Classification Working Party is currently engaged in obtaining data on European brown coals and American lignites with a view of formulating a system of classification for these low rank coals. It is also working on classification of coals by size and the classification of coke. It has made considerable progress on these items. These standardization projects should prove of great help in connection with international trade in solid fuels as formerly difficulties arose from the lack of standardization among countries of methods of classifying and evaluating coals for specific uses.

Financial assistance by nine coal companies and three coal associations, as well as by the U.S. Bureau of Mines and the Illinois State Geological Survey, made possible attendance of the delegation at the meeting.

# *Outstanding Progress* in International Meeting on Copper

*by* V. P. WEAVER

*Mr Weaver is assistant metallurgist, The American Brass Company, Waterbury, Connecticut. He was leader of the USA delegation to the meeting of ISO Technical Committee 26 in Stockholm, June 13 and 14.*

THE first meeting of ISO/TC 26 on Copper and Copper Alloys was held June 13 and 14 in the Houses of Parliament, Stockholm, Sweden.

The attendance totaled 50, with 18 member countries represented. Delegates were present from 11 of the 13 participating-member countries — Belgium, Czechoslovakia, Finland, France, Germany, Netherlands, Sweden, Switzerland, United Kingdom, United States, Yugoslavia—and from 7 of the 15 observer-member countries — Brazil, Hungary, Israel, Japan, Norway, Spain, USSR.

The American Standards Association, as the national standards body for the United States, a member country, holds the secretariat of the committee. ASA was represented by Vincent P. Weaver, assistant metallurgist, The American Brass Company, Waterbury, Connecticut, and Walter D. France, assistant director of research, Scovill Manufacturing Company, also of Waterbury.

C. A. Jacobson, managing director, AB Svenska Metallverken, Västeras, Sweden, and first vice-president of the Swedish Organization for Metal Standards, welcomed the delegates and pointed out that with the increased productivity of industry, standardization is needed in order to avoid the unnecessary specialization that increases costs. Mr Folke Nilsson, director, Boliden Mining Company, Skelleftehamn, Sweden, acted as chairman and Mr Weaver as secretary. Arrangements for meeting space and stenography were handled by the Swedish Organization for Metal Standards.

The committee adopted as the scope of its activities "nomenclature, specifications, sampling, and methods of tests relating to material and products of copper and copper alloys; i.e., alloys in which copper is the principal element." The committee ruled that the scope does not include material for particular purposes, such as chemical products and metallic pigments, that it does not include products falling within the scope of other technical committees of the ISO and IEC (such as ISO/TC 5, Pipes and Fittings; IEC 20, Electrical Cables; and IEC 12-5, High Frequency Cables), and, specifically, that there should be collaboration with ISO/TC 5 on international standards for copper and copper-alloy pipe and tube.

Four study topics consisting of four ASTM Standards had been proposed by the Secretariat for consideration. On the first day, the committee set up three discussion groups for such study. As a result, three of these ASTM Standards were modified slightly and adopted as Draft Recommendations to be circulated to member countries for comment. These three include Classification of Coppers, Method of Test for Expansion of Copper and Copper-Alloy Tubing (Pin Test), and Method of Test for Residual (Internal) Stresses in Copper or Copper-Base Alloy Products (Mercurous Nitrate Test).

For future activity, a working group was set up to devote further

study to a classification of cast copper-base alloys; a second group will study classification and properties of wrought copper and copper alloys; and a third, mechanical testing, basing its work on that which has been done in ISO/TC 17 on Steel.

It was the general opinion that this initial meeting of the committee had made outstanding progress. Language seemed to present no great barrier, especially because of excellent interpreter service and the familiarity of some of the delegates with both English and French.

All of the deliberations in the plenary sessions as well as the group discussions were of a most cordial nature and there seemed to be present the best kind of group thinking and friendly cooperation. If the attendance, the attitude of the delegates, and the active interest at this first meeting is any indication at all, it is evident that in the field of copper and copper alloys, international standardization is needed and should prove fruitful.

On the day following the two-day technical meeting, about 30 of the delegates visited the Västeras Works of AB Svenska Metallverken to observe copper and brass mill operations. With other ISO delegates, planned trips were made to the Island of Lillsved in the Archipelago and to Drottningholm Palace and the Palace Theatre.

# AMERICAN STANDARDS

**Status as of August 18, 1955**

## Building

### In Board of Review—

Building Code Requirements for Minimum Design Loads in Buildings and Other Structures, A58.1 (Revision of A58.1-1945)

*Sponsor:* National Bureau of Standards

### In Standards Board—

Support, Anchorage, and Protection of Exterior Marble Veneer 2 Inches and Less in Thickness, Specifications for, A94.2

Exterior Marble Used in Curtain Walls, Specifications for, A94.3

*Sponsor:* Marble Institute of America.

Gypsum Lath, Specifications for, ASTM C37-50; ASA A67.1 (Revision of A67.1-1951)

Gypsum Sheathing Board, Specifications for, ASTM C79-52; ASA A68.1 (Revision of A68.1-1953)

Testing Gypsum and Gypsum Products, Methods of, ASTM C26-52; ASA A 70.1 (Revision of A70.1-1953)

Gypsum Partition Tile or Block, Specifications for, ASTM C52-41; ASA A105.1 (Revision of A105.1-1954)

*Sponsor:* American Society for Testing Materials

### Standard Submitted—

Standard Types of Building Construction, A110.1; NFPA 220

*Sponsor:* National Fire Protection Association

### Legend

*Standards Council*—Approval of Standards Council is final approval as American Standard; usually requires 4 weeks.

*Board of Review*—Acts for Standards Council and gives final approval as American Standards; action usually requires 2 weeks.

*Standards Boards*—Approve standards to send to Standards Council or Board of Review for final action; approval by standards boards usually takes 4 weeks.

## Consumer Goods

### New Projects Requested—

Performance Requirements for Cleaning Supplies

*Requested by:* American Hotel Association

## Electrical

### American Standards Approved—

Computing Food-Storage Volume and Shelf Area of Automatic Household Refrigerators, Method of, B38.1-1955; NEMA-HR1 (Revision of B38.1-1944)

*Sponsors:* American Society of Refrigerating Engineers; U.S. Department of Agriculture, Home Economics Research Branch

Electrical Indicating Instruments, C39.1-1955 (Revision of C39.1-1951)

*Sponsor:* Electrical Standards Board

### In Board of Review—

Testing Molded Materials Used for Electrical Insulation, Methods of, ASTM D48-54T; ASA C59.1 (Revision of ASTM D48-52T; ASA C59.1-1954)

Testing Electrical Insulating Oils, Method of, ASTM D117-54T; ASA C59.2 (Revision of ASTM D117-43; ASA C59.2-1944)

Test for Insulation Resistance of Electrical Insulating Materials, Methods of, ASTM D257-54T; ASA C59.3 (Revision of ASTM D257-52T; ASA C59.3-1954)

Testing for Impact Resistance of Plastics and Electrical Insulating Materials, Methods of, ASTM D256-54T; C59.11 (Revision of ASTM D256-47T; ASA C59.11-1948, R 1954)

*Sponsor:* American Society for Testing Materials

Ceramic Dielectric Capacitors (for Normal Commercial Applications in Noncritical Environments), C83.4; RETMA REC-107-A

Fixed Wire Wound Resistors (Low Power in Non-Metallic Cases) (For Normal Commercial Applications in Noncritical Environments), C83.6; RETMA REC-117

Variable Control Resistors (Standard Tapers, Definitions, Shafts and Mountings) (For Normal Commercial Applications in Noncritical Environments, C83.7; RETMA REC-121-B)

Panel Lamps (Form, Dimensions, Ratings) (For Normal Commercial Applications in Noncritical Environments), C83.8; RETMA REC-137

*Sponsor:* Radio-Electronics-Television Manufacturers Association

### In Standards Board—

Soft or Annealed Copper Wire, Specifications for, ASTM B3-53T; ASA C7.1 (Revision of C7.1-1953)

*Sponsor:* American Society for Testing Materials

Terms for Audio Techniques, Definitions of, C16.24; 54 IRE 3.S1

Terms for Radio Aids to Navigation, Definitions of, C16.26

*Sponsor:* Institute of Radio Engineers

Synchronous Generators, Synchronous Motors and Synchronous Machines in General, C50.1 (partial revision of C50-1943)

Alternating-Current Induction Motors, Induction Machines in General and Universal Motors, C50.2 (partial revision of C50-1943)

Direct-Current Generators, Direct-Current Motors and Direct-Current Commutating Machines in General, 50.4 (partial revision of C50-1943)

Rotating Exciters for Synchronous Machines, C50.5 (partial revision of C50-1943)

Motor-Generator Sets, C50.6 (partial revision of C50-1943)

Dimensions for Motors and Generators, C50.8 (partial revision of C50-1943)

*Sponsor:* Electrical Standards Board

Conditioning Plastics and Electrical Insulating Materials for Testing, Methods of, ASTM D618-54; ASA C59.28

*Sponsor:* American Society for Testing Materials

Terms of Electron Tubes, Definitions of, C60.9

Terms of Magnetrons, Definitions of, C60.10

Terms of Gas-Filled Radiation Counter Tubes, Definitions of, C60.12

*Sponsor:* Joint Electron Tube Engineering Council

IES Guide for Electrical Measurements of Fluorescent Lamps, C78.375

Dimensional and Electrical Characteristics of 20-Watt T-12 Preheat Start Fluorescent Lamp, C78.406 (Revision of C78.406-1951)

Dimensional and Electrical Characteristics of 100-Watt T-17 Preheat Start Flourescent Lamp, C78.410

Dimensional and Electrical Characteristics of 90-Watt T-17 Preheat Start Fluorescent Lamp, C78.411

Dimensional and Electrical Characteristics of 40-Watt T-12 Instant Start Fluorescent Lamp, C78.600 (Revision of C78.600-1951)

Dimensional and Electrical Characteristics of 48-Inch T-12 Instant Start Single-Pin Hot-Cathode Flourescent Lamp, C78.808 (Revision of C78.808-1951)

Dimensional and Electrical Characteristics of 72-Inch T-12 Instant-Start Single-Pin Hot-Cathode Fluorescent Lamp, C78.809 (Revision of C78.809-1951)

Dimensional and Electrical Characteristics of 96-Inch T-12 Instant Start Single-Pin Hot-Cathode Fluorescent Lamp, C78.810 (Revision of C78.810-1951)

*Sponsor:* Electrical Standards Board

Design, Construction and Operation of Class HI (High-Impact) Shock Testing Machine for Lightweight Equipment, Specification for, Z24.17

*Sponsor:* Acoustical Society of America

### Standard Submitted—

Electric Railway Control Apparatus, C48 (Revision of C48-1931)

*Sponsor:* American Institute of Electrical Engineers

## Graphic

### In Board of Review—

Graphical Symbols for Plumbing, Y32.4 (Revision of Z32.2.2-1949)

*Sponsors:* American Institute of Electrical Engineers; American Society of Mechanical Engineers

### In Standards Board—

Letter Symbols for Chemical Engineering, Y10.12 (Revision of Z10.12-1946)

*Sponsor:* American Society of Mechanical Engineers

## Materials and Testing

### American Standards Approved—

Installation of Clay Sewer Pipe, Recommended Practice for, ASTM C12-54; ASA A106.2-1955

Standard Strength Clay Sewer Pipe, Specifications for, ASTM C13-54; ASA A106.3-1955

Standard Strength Ceramic Glazed Clay Sewer Pipe, Specifications for, ASTM C261-54; ASA A106.4-1955

Testing Clay Pipe, Methods of, ASTM C301-54; A106.5-1955

Test for Boiling Point of Engine Antifreezes, Method of, ASTM D1120-53; ASA D14.1-1955

Test for Reserve Alkalinity of Concentrated Engine Antifreezes, Method of, ASTM D1121-54; ASA D14.2-1955

Test for Specific Gravity of Concentrated Engine Antifreezes by the Hydrometer, Method of, ASTM D1122-53; ASA D14.3-1955

Sampling and Preparing Aqueous Solutions of Engine Antifreeze for Testing Purposes, Method for, ASTM D1176-54; ASA D14.4-1955

Test for Freezing Point of Aqueous Engine Antifreeze Solution, Method of, ASTM D1177-54; ASA D14.5-1955

Hardness Conversion Table for Cartridge Brass (Relationship between Diamond Pyramid Hardness, Rockwell Hardness, and Brinell Hardness), ASTM E33-42; ASA Z76.1-1955

Hardness Conversion Table for Steel (Relationship between Diamond Pyramid Hardness, Rockwell Hardness, and Brinnel Hardness), ASTM E48-43T; ASA Z76.2-1955

Hardness Conversion Table for Nickel and High-Nickel Alloys (Relationship between Diamond Pyramid Hardness, Brinell Hardness, and Rockwell Hardness), ASTM E93-52; ASA Z76.3-1955

Analysis of Natural Gases by the Volumetric-Chemical Method, Method for, ASTM D1136-53; ASA Z77.1-1955

Analysis of Natural Gases and Related Types of Gaseous Mixtures by the Mass Spectrometer, Method for, ASTM D1137-53; ASA Z77.2-1955

Test for Water Vapor Content of Gaseous Fuels by Measurement of Dew-Point Temperature, Method of, ASTM D1142-53; ASA Z77.3-1955

Sampling Natural Gas, Method of, ASTM D1145-53; ASA Z77.4-1955

*Sponsor:* American Society for Testing Materials

### In Board of Review—

Nickel Seamless Pipe and Tubing, Specifications for, ASTM B161-49T; ASA H34.1

Nickel-Copper Alloy Seamless Pipe and Tubing, Specifications for, ASTM B165-49T; ASA H34.2

Nickel-Chromium-Iron Alloy Seamless Pipe and Tubing, ASTM B167-49T; ASA H34.3

*Sponsor:* American Society for Testing Materials

## Mechanical

### American Standard Approved—

Code for Pressure Piping, B31.1-1955, Including Supplement No. 1, B31.1a-1953 (Revision of B31.1-1951)

*Sponsor:* American Society of Mechanical Engineers

### In Standards Board—

Preferred Limits and Fits for Cylindrical Parts, B4.1 (Revision of B4.1-1947 Part 1)

*Sponsor:* American Society of Mechanical Engineers

Butt-Welding Ends, B16.25

*Sponsors:* American Society of Mechanical Engineers; Heating, Piping and Air Conditioning Contractors National Association; Manufacturers Standardization Society of the Valve and Fittings Industry

Scales for Use With Decimal-Inch Dimensioning, Z75.1

## Medical

### American Standard Approved—

Dimensions for Glass and Metal Luer Tapers for Medical Applications, Z70.1-1955

*Sponsor:* Miscellaneous Standards Board

### Miscellaneous

**In Standards Board—**

Nursery Stock, Z60.1a (addition to Z60.1-1952)
*Sponsor:* American Association of Nurserymen

**Standards Withdrawn—**

Listing Requirements for Attachable Gas Water Heating Units, Z21.26-1941, R1953

Listing Requirements for Gas Appliance Connectors of Flexible Metal Tubing and Fittings, Z21.32-1942, R1953 (effective 12/31/55)
*Requested by:* American Gas Association

### Office Equipment

**American Standard Approved—**

Basic Sheet Sizes and Standard Stock Sizes for Bond Papers and Index Bristols, X2.2.1-1955
*Sponsor:* National Office Management Association

### Photography

**In Standards Board—**

Dimensions for 70mm Perforated Film for Cameras Other Than Motion Picture Cameras, PH1.20

Focal Length of Lenses, Markings, PH3.13 (Revision of Z38.4.4-1942)
*Sponsor:* Photographic Standards Board

### Safety

**In Board of Review—**

Prevention of Dust Explosions in Flour and Feed Mills, Code for, Z12.3 (Revision of Z12.3-1953)

Prevention of Explosions in Terminal Grain Elevators, Code for, Z12.4 (Revision of Z12.4-1953)

Prevention of Dust Ignitions in Country Grain Elevators, Code for, Z12.13 (Revision of Z12.13-1953)
*Sponsor:* National Fire Protection Association

**Withdrawal Being Considered—**

Metal Cleaning Sanitation, Z46
*Requested by:* Safety Standards Board

# WHAT'S NEW ON AMERICAN STANDARD PROJECTS

Courtesy Tool Engineer

**Subcommittee members of B67** *pictured above from left are: G. H. Harnden, General Electric Company; Gilbert Stewart, Excello Corporation; Clyde Fanning, General Motors Institute, chairman of B67 and a member of the ASTE Standards Committee; George Hargreaves, staff administrator for ASTE; Jerry Krandall, Abrasive Dressing Tool Company, chairman of the subcommittee; C. A. Brown, Chrysler Corporation; D. E. Stone, J. K. Smit and Sons; D. J. Wallace, Wheel Trueing Tool Company; L. K. Pruett, Ford Motor Company.*

## Ball and Roller Bearings, B54 —

*Sponsor:* Anti-Friction Bearing Manufacturers Association

At its meeting in March the committee unanimously voted to approve the "Purpose and Objectives" of the proposed American Standard Identification Code. This statement reads as follows:

"The bearing identification code should provide a universal language for describing and identifying American Standard ball and roller bearings and elements for the purpose of facilitating communications between the user and the manufacturer.

"It is believed to be unfeasible for anyone to use the proposed identification code number as a part number, a drawing number, or an accounting number, although in isolated cases it may be practical to do so.

"The code should essentially be an unmistakable means for accurate communication of the user's need to the bearing manufacturer. The identification code should provide a quick, concise, accurate, and economical means of transmitting an engineering description of ball and roller bearings."

Negative votes cast against the original draft code have been resolved and a new draft proposal is being completed.

## Industrial Diamonds and Accessories for Their Use, B67—

*Sponsors:* American Society of Tool Engineers; Industrial Diamond Association.

Standard styles and dimensions of single point diamond dressing tools are the objectives of this subcommittee of committee B67. The subcommittee members pictured here are studying the 250 styles and sizes of diamond tools now being used with an eye to reducing the number to what is actually needed to meet industry needs. The number may eventually be less than a dozen. Although there will always be needs for special sizes and shapes, it is estimated that at least 90 percent of all dressing tools could be standardized, the American Society of Tool Engineers points out in the July issue of *Tool Engineer*. Jerry Krandall, vice-chairman of B67 and a representative of the Industrial Diamond Association, is chairman of this subcommittee.

Another B67 subcommittee, with Gilbert Stewart of the National Machine Tool Builders Association as chairman, has proposed nomenclature for diamond tools. This proposal is now ready for review by all interested parties.

## Bushings, C76 —

*Sponsor:* American Institute of Electrical Engineers.

Conversion of electrical equipment to use of bushings that meet the requirements of American Standard C37.4a-1954, is nearing completion, major manufacturers report.

General Electric announced in

June that production of breakers rated 69 kv and below had been changed to the new American Standard, and noted favorable reaction from utility customers. Henceforth all G-E breakers will have the new standard bushings, the company announced. Standard bushings will also be furnished on power transformers, regulators, oil-filled reactors, and circuit breakers.

Allis-Chalmers has also announced the change-over. G. W. Clothier, Allis-Chalmers transformer section manager, is the new secretary of Sectional Committee C76.

Although the new standards do not fulfill the ideal condition, they do make bushing interchangeability practical, Mr Clothier has commented. "The standards make interchangeability among transformers and among breakers very practical, while interchangeability can occasionally be obtained between breakers and transformers," he declared. The standard "has eliminated literally hundreds of bushings from the utilities inventories, simplified the drawing and record keeping of utilities, and likely will save operators thousands of dollars in the future," he declared.

Some tangible results may be expected by the end of the year on new standards for bushings above 69 kv, Mr Clothier reports.

### Exhaust Systems, Z9 —

*Sponsors:* American Industrial Hygiene Association; American Society of Heating and Air Conditioning Engineers; National Association of Fan Manufacturers.

Knowlton J. Caplan, Mallinckrodt Chemical Works, St Louis, is chairman of an editing subcommittee that is putting the final touches on a proposed American Standard safety code on fundamentals for exhaust systems. This proposed standard is an extensive revision of a report on fundamentals relating to the design and operation of exhaust systems published some years ago and widely used before becoming out of date. Dr Allen D. Brandt, Chief Industrial Hygiene Engineer, Bethlehem Steel Company, was chairman of the technical subcommittee that prepared the revision now being edited.

# STANDARDS OUTLOOK

*by* LEO B. MOORE

**Extracompany Activity**

Clearly the foundation for the long run ahead into a successful future must be laid on the broad base of a variety of experiences. The belief that a man—any man—can hope to succeed through sheer specialization and narrow concentration cannot hold as we move into a world that is changing at an ever-increasing pace.

More and more it is evident that any man content to put in just eight hours a day is playing a losing game. The standards engineer who goes through the same business, day after day, of grinding out standards, getting them printed, mailing them to manual holders, and then closing the door behind all this when five o'clock comes is not building for the future. The caravan of new ideas and developments has slipped away and has traveled far ahead. It is hard enough to keep up; let alone, catch up.

The problem of staying with the situation in which we exist, and of trying to anticipate it to some extent, is basically a problem of competition. Perhaps the best way to cope with competition is to be the maker of it. If, instead of watching others for some indication of the next move, you can be the one being watched, then the situation becomes markedly different. This is not nearly as hard as it looks.

The standards engineer emerges from the pack by doing several things that indicate effort, the most effective being: (1) joining and serving; and (2) talking and writing. Many men join an organization apparently only to be able to say that they are members. They pay their dues for the privilege of receiving the monthly publication and notices of annual meetings. The more fruitful rule would be, it would seem, to join an organization which serves your interest and in which you have sufficient interest so that you will serve it. Standards engineers have the American Standards Association and the Standards Engineers Society as representatives of their interests; therefore, they have small excuse for not joining and even less for not serving. The curse of every organization is the member who is a member in name only. The problem of every organization is the job of finding someone with sufficient interest to give the effort to serve.

This is the time of year to think about joining and serving, and particularly about putting thoughts and experiences into words. There are plenty of chances to talk about standards. Local business and speaking groups welcome the opportunity to hear about something different and will be delighted to have you tell them your standards story. Yes, even women's clubs! Articles for the plant organ and for the local newspaper and for magazines of special groups are possible. These speaking and writing experiences provide an opportunity not only to put ideas across but to share them with others. They in turn will provide you with their reactions and their sympathies. They will give a lead to different ways of expressing these concepts in an effective manner. Best of all, they will endow you with a special reputation because you earned it—by your effort.

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